

**OPTIMISING GTA V** HOW TO GET THE MOST OUT OF THE OPEN WORLD SENSATION!

**NVIDIA TITAN X** THE MOST POWERFUL SINGLE GPU CARD EVER REVIEWED!

# PC PowerPlay

AUSTRALIA'S #1 PC GAMING MAG

## PROJECT CARS

DOES THIS AMBITIOUS INDIE STACK UP AGAINST THE RACING SIM COMPETITION?

## 40K REGICIDE

HANDS ON WITH THE AUSTRALIAN DEVELOPED 40K/CHESS HYBRID!

## WOLFENSTEIN

CAN THE OLD BLOOD COMPETE WITH THE NEW BREED?

## THE WITCHER 3: WILD HUNT

### REVIEWED

GERALT'S FINAL ADVENTURE IS POSSIBLY HIS BEST

TOM CLANCY'S

# RAINBOW SIX

# SIEGE

The legendary series returns to kick down doors and take names



# The two reasons you need to upgrade your motherboard.

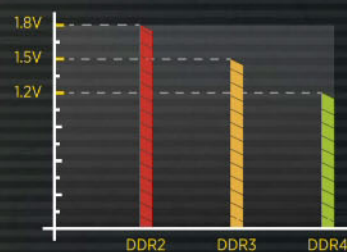
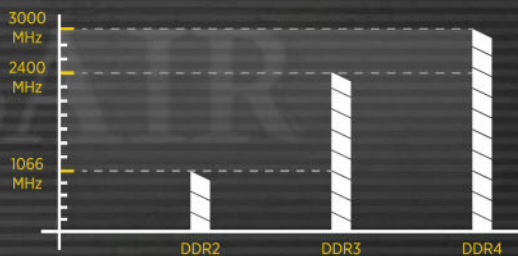


**DOMINATOR**  
PLATINUM

**VENGEANCE**  
LPX

# The DDR4 memory standard for Intel X99 Series motherboards is officially here, and it's officially awesome.

Corsair, the company that invented high-performance enthusiast memory, is taking the lead with all-new DDR4 versions of the legendary Dominator Platinum and Vengeance memory lines. Make the move to DDR4 memory with Corsair and you'll get dramatically faster speeds of over 3000MHz, larger capacities, and less power usage. It's the new memory spec that enthusiasts have been waiting for. So, the question is: what are YOU waiting for?



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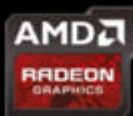
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## ON THE COVER

### TOM CLANCY'S RAINBOW SIX: SIEGE

**p. 36**

Blowing things up is fun, tactically blowing  
things up with mates is even more fun



## REVIEW

# THE WITCHER 3

p. 51

Get your hands dirty in this immensely large fantasy world



## TECH FEATURE

# GTA V OPTIMISATION GUIDE

p. 68

Make sure you're getting the most out of Los Santos



## TECH

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We test the fastest card on the block

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Win an instant games collection!





## Tech Travel

Almost immediately after writing this I have to start packing my bags for Computex. I'm usually a little jaded when it comes to work trips. I've done a lot of them and the majority feel more like taking a long sleepless commute to work rather than travelling to a different country. I feel differently about Computex. I've never been to one before. That's exciting in itself, but what's more exciting is that it will be an intensive crash course getting me back up to speed on the PC tech world, and the cutting edge PC tech world at that.

I know the general rules of modern tech and have the contacts, but my in depth knowledge is a little lacking. The last time I was heavily invested professionally in PC components I was the tech editor of this magazine. I had a surfboard of a Voodoo 5 graphics card, MP3 players were, with the exception of the enormous Creative Jukebox, only capable of holding a couple of hundred Mb of songs at best. Motherboards were extremely similar in feature sets aside from the occasional Nvidia board with a built in GPU. Mice had balls and every second company was trying to sell some kind of awkward left hand peripheral. LCD monitors were starting to rise but had terrible refresh rates and cost a fortune. Like I say, my detailed knowledge is a little behind the times.

But this will change. I'm about to head to the land of tech and meet with pretty much every significant vendor over the span of three days, getting a first look at the technology of the future. It's exciting. I feel energised. I feel like I'm about to do something important. Of course, when we get back from the trip, Bennett and myself only have a few weeks to put together the PCPP Tech Special for 2015. It's going to be a hectic couple of weeks, but damn, it's going to be worth it.

**Daniel Wilks**  
Editor  
[@drwilkenstein](mailto:@drwilkenstein)

### QUOTES OF THE MONTH

"Last night in Game of Thrones a dragon and a midget had a baby"

"Does anyone else think Logarius looks like the Ice King?"

"Why fight bandits when I can play Gwent?"

## PC PowerPlay

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## THIS MONTH...



**DANIEL WILKS**  
woz 'ere.  
@drwilkenstein



**MALCOLM CAMPBELL**  
is staring at his own  
name.



**BENNETT RING**  
is in tech heaven.  
@bennettring



**JAMES COTTEE**  
endlessly ponders.  
@j\_cottee



**MEGHANN O'NEILL**  
may have kissed  
Blackwall.  
@firkraags



**JAMES O'CONNOR**  
has a fine beard.  
@jickle



**BEN MANSILL**  
Agonised over War  
Thunder.



**NATHAN LAWRENCE**  
needs to trim his beard.



**ANGUS BAILLIE**  
Whokka whokka?



**ALESSANDRO GUARREDERA**  
can't stop thinking with  
magnets.  
@ALguarreda



**DAVID HOLLINGWORTH**  
has had a haircut.



**ALEX MANN**  
is the bacon & egg king.



**CAMERON FERRIS**  
broke the stapler.  
@pcpowerplay



**SEAN FLETCHER**  
joins the team!

# FRONTEND



## PREVIEW

### 36 Tom Clancy's Rainbow Six: Siege

Can Siege bring Rainbow Six back to form?



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We talk to the company that keeps Tanks, Warplanes, and Warships running smooth.



### 28 Indies

The best of independant development



### 32 10 to Watch

The most exciting games on the horizon



# THE RELEASE SCHEDULE

Looking ahead to the upcoming PC game releases

LEGEND:



Steam



Origin



Good Old Games



uPlay



Battle.net



Download



Retail

## JUNE

2<sup>ND</sup>



HEROES OF THE  
STORM  
BLIZZARD  
ENTERTAINMENT



2<sup>ND</sup>



LEGO JURASSIC  
WORLD  
TRAVELLER'S TALES



16<sup>TH</sup>



AMIKROG  
PENCIL TEST  
STUDIOS



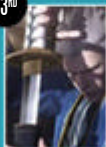
23<sup>RD</sup>



ROUTINE  
LUNAR SOFTWARE



23<sup>RD</sup>



DEVIL MAY CRY  
4: SPECIAL  
EDITION  
CAPCOM



23<sup>RD</sup>



BATMAN:  
ARKHAM KNIGHT  
ROCKSTEADY



## JULY

10<sup>TH</sup>



F1 2015  
EA



31<sup>ST</sup>



MAGIC DUELS:  
ORIGINS  
WIZARDS OF THE  
COAST



TBA



KYN  
TANGRIN  
ENTERTAINMENT



## AUGUST

TBA



BLOOD BOWL 2  
CYANIDE



TBA



ROLLERCOASTER  
TYCOON WORLD  
AREA 52 GAMES



TBA



HYPER LIGHT  
DRIFTER  
HEART MACHINE



## Q3/4

TBA



AKIBA'S TRIP

TBA



TEMBO THE  
BADASS  
ELEPHANT

TBA



SHADOWRUN:  
HONG KONG

TBA



DEAD ISLAND 2  
YAGER  
DEVELOPMENT

TBA



JUST CAUSE 3  
AVALANCHE  
STUDIOS

TBA



BATTLEBORN  
GEARBOX  
SOFTWARE

TBA



GIGANTIC  
MITOGA



TBA



OVERWATCH  
(BETA)  
BLIZZARD



SEPT



METAL GEAR  
SOLID 5  
KONAMI





# Inbox



I have paid full retail for! Yep you guys have really improved the provision of Free demos. So proud of it, you don't bother to inform magazine buyers on the cover.

**Will Arnold**

*Hi Will – having Steam demos on the cover disk has nothing to do with selling out but rather the way distribution has changed. While it would be nice to be swimming in that sweet Steam sellout cash, the truth is very different. Very few, if any games nowadays release a standalone demo but rather release it on Steam, a platform with high saturation in the market targeted directly towards the people they are hoping to entice. We wish we could package non Steam based demos, but they don't really exist. We would like to point out, however, that the disk does not contain instructions on how to download demos, rather instructions on how to install the demos from the disk into Steam. The only downloading required is an updated Steam client.*



## LETTER OF THE MONTH WHO WATCHES THE WATCHDOGS

I recently purchased a copy of watch dogs and found that the key had been used, this is the response I got. I thought you might like to let your readers know how willing Ubisoft is to hand out their personal details.

Apologies for the late response, We have checked the CD key code that you have sent to us and we found that your CD key is registered to the user name of [REDACTED] & Email ID: [REDACTED] You need to login to this account in order to play the game. However if you don't recognize this user name, please contact your game retailer and let them know about your CD key code issue. They should be able to provide you with a Replacement game or a Refund.

I would prefer if you withheld the users email address if you do decide to let people know, their privacy is important, even if it isn't to Ubisoft.

**Robert Bruce**

*Hi Robert – it's a bit disturbing that they sent you the other guy's email and username when you explicitly stated that it was linked*

*to a different account, especially when most companies are constantly reminding you to never give out your username and contact email/ password. We hope the retailer gave you a refund or replacement (preferably of something better than Watchdogs).*

## FREE BIRD

You assume all PC Game players have good access to Broadband, so you don't think it is necessary to actually state on your magazine covers that..."access to the Internet, an account with Steam and additional outlay is required to play most Demos included on our FREE disc". I ordered a music program from an Australian PC magazine online They sold me a demo for full price that required 1 gig of download to actually use. That on prepaid is a trial. Informed the producer of the software in Germany, sending all the condescending emails to them, they put the full program on to a DVD and mailed it to me. And apologised. Some people have higher values. I supported your magazine from issue Nov-132.....but you sold out. You don't offer Free demos anymore, just instructions how to download them. I have to constantly pay to update a 3rd party app in order to play games

## LETTER OF THE MONTH WINS!

*Write in to PCPP with your rants, considered opinions, and endless run-on sentences of pure awesome. The address is letters@pcpowerplay.com.au. Each letter read by hand! This Letter of the Month winner scores himself a sweet Turtle Beach Grip 300 Gaming Mouse Kit!*



## FEEDBACK #240

**> Gareth Barthorpe:** twas a thoroughly decent edition, though there were a few spelling mistakes, a couple of garbled sentences and one doubled up opinion statement (intel's opinion) in the gaming in 20 years time piece.

**> Matthew Schmidt:** I like the shiny.

**> Mitchell Hall:** Good cover, excellent preview of Star Wars: Battlefront, would have liked it to feel more like a birthday issue.

**> Justin Murtagh:** Cover was amazing. Although to temper that, it's pretty hard to stuff up Star Wars. Unless you're George Lucas.

## MAKE YOURSELF HEARD!

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[www.pcpowerplay.com.au](http://www.pcpowerplay.com.au)





## GREGG AGE 55 | DAPTO, NSW

This month's MY PC brought to you by



TESORO

Hey guys I figured I'd show my setup, which is primarily setup for Flight Simulator. I took this new setup from under the desk with the idea to basically piss the wife off, given that she spends so much more on her clothes. The cases are Antec skeletons which have been given a custom paint job to look the part. They are mounted on aluminium racks which I made to keep these units out of the wife's reach. The second PC is networked to support the main one with background programs like weather and navigation. The main computer is run by an i7 2600k @4.5ghz on water, alongside with a HD6970, also water cooled. Flight Simulator runs pretty happily on this hardware. The radiator, fans and reservoir are on a hand-made aluminium rack which suits the rest of the theme. I hand-picked all the parts to match the theme.

### FOUR MOST IMPRESSIVE ELEMENTS:

1. 34" 21:9 LG IPS 3440 X 1440 monitor

2. Hand-made mounts and custom cases for both PC's

3. External water cooling system

4. Custom paint job for the Antec Skeletons  
**LAST UPGRADE:** The previous monitor was a Samsung 30" which recently died. Where do you go up from there? 34" of course.

**DREAM UPGRADE:** Two more of these monitors would be nice but two new keyboards is more realistic.

**FAVOURITE FEATURE:** Heat management is pretty well looked after.

1. These Antec Skeletons look seriously sharp

2. Keep your eyes on the skies traveller

3. Some people have photos of their families, others have their true love...

4. The more levers the better

5. All we can say is PULL UP! PULL UP!

6. Safety first kids

## JEREMY WINS!

Oh, so Jeremy wants a new keyboard? Well, he gets a Tesoro Excalibur which should update his set up rather nicely. Enjoy!



winner!

**WANT FREE STUFF?** Send your MyPC entry today to [mypc@pcpowerplay.com.au](mailto:mypc@pcpowerplay.com.au). Include the four most impressive elements of its hardware, your last upgrade, your dream upgrade, your favourite feature and what you think makes your PC special. Make sure to include your name, age and location. And last but not least, attach a 5MP or bigger image of your PC! No camera phone shots, and make sure it's in focus!



## XCOM 2 ANNOUNCED

Well, that's what we think it is, anyway.

Now here's good news for people who like watching their hand-picked, elite squads of infantry die in horrible ways - 2K has announced that XCOM 2 is in development.

And, interestingly, it's only being announced for PC at this stage.

The new game posits what happened to most people in XCOM - we've lost, and the aliens have won. Now XCOM is an even more clandestine operation, fighting against the alien-backed 'new world order'. The future cities and locations look more like something out of Deus Ex, and gear and models have an all new, far grittier feel.

"Firaxis proved they could reimagine a beloved franchise with XCOM: Enemy Unknown, a



Game of the Year award-winning title," said Christoph Hartmann, president of 2K, in today's release. "With XCOM 2, the team is breathing new life into the series by adding an epic narrative and challenging players to overcome near impossible odds."

The game will feature more mod support than ever before, new soldier classes, more customisation options, and procedurally generated levels. XCOM 2 is slated for release November this year.



## NO MORE CYBERPUNK 2077 UNTIL 2017

Well, bugger.

If you're waiting with bated cyber-breath for CD Projekt Red's Cyberpunk 2077 RPG, well... you may want to get used to Geralt for a bit.

Speaking to Reuters, CDPR's CEO Adam Kicinski has pretty much said that, for this year and the next, the company is focused solely on The Witcher 3.

"We hope and we are certain that Cyberpunk has even bigger

commercial potential. It is too early to talk about it, though. This year, and the next one will be the years of the Witcher," he said.

The admission came after he revealed record sales for the latest Witcher game, which is great, but with 16 separate pieces of DLC planned, and the likely Definitive Edition, that's what the company's focusing on.

## NVIDIA ANNOUNCES NEW GEFORCE 980 Ti

The ideal solution for single-core, 4K gaming is coming, and it's looking pretty sharp.

Ahead of the launch of the new hardware at Computex in Taipei this week, NVIDIA hosted a special launch event in Sydney last week for one of its more awaited products. While the massive GTX Titan may be overkill for some, it's looking like the true sweet spot for performance - and hopefully price - will be the just announced GTX 980 Ti.

Based on cores that didn't quite make the cut for the Titan, the 980 Ti is still a beast on paper. It comes with a stock 1000MHz GM200 'Big Maxwell' GPU, and 6GB of GDDR VRAM, pushing through a 384-bit memory bus, backed by 2816 CUDA cores. For all that grunt, power consumption is a reasonable 250 watts, which is in line with previous cards.

NVIDIA made a lot of noise about the coming launch of Windows 10 at the launch, and is sure that 980 Ti's full support for all of DirectX 12's functionality will be a big driver of the card's success. Only NVIDIA's 9-series cards will support every part of the API.

Performance-wise, NVIDIA's promising some serious improvements, and well above those seen from the vanilla GTX 980. In fact, the 980 Ti is built with 4K gaming in mind - in performance tests comparing the card to the still popular GTX 680 (it's what I'm running at home, for instance), NVIDIA claims a doubling of frame rates at 1080p, two-and-a-half more frames at 1440p, and a whopping three times the frames at 4K resolutions.

We're setting up one for testing, so be sure to check out an upcoming issue or check back on the site for our final verdict.

Australian pricing, via PC Case Gear, is currently sitting around the \$1000 mark, with EVGA's GTX 980 Ti Superclocked 6GB priced at \$999, and both Gigabyte's GeForce GTX 980 Ti 6GB and MSI's GeForce GTX 980 Ti 6GB at \$1049. Considering TITAN's will set you back over \$1500, the 980 Ti seems a bargain by comparison.





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MSI recommends Windows.



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## RISEING TIDE EXPANSION COMING FOR CIVILIZATION: BEYOND EARTH

Take to the alien seas, and delve deeper into diplomacy.

If you're getting a little tired of Sid Meier's Civilization: Beyond Earth, this will be news to your genetically modified or entirely cybernetically-replaced ears.

A new expansion pack - Rising Tide - is coming later this year. There's no set date, but the expansion will be available in Spring, and \$49.95. Thankfully, it sounds like it's packed with content...

Building floating settlements and accessing natural resources hidden beneath the seas of an alien planet, while alien beasts with unique abilities inhabit the water and challenge players in distinctive ways.

Shaping the diplomatic landscape by upgrading traits, changing diplomatic relationships, and leveraging the benefits of your allies, all with political capital.

Unlocking a dynamic set of Diplomatic Traits while activating different combinations in response to the changing world. Playing as one of four new factions, including the Al Falah, a group of nomad explorers descended from wealthy and resilient Middle Eastern states.

Investing in multiple Affinities to unlock hybrid Affinity units and upgrades for the first time.

Collecting and combining alien relics via a new Artifact System that unlocks powerful benefits.



Exploring one of two new biomes, Primordial world, an untamed biome rife with volcanic activity and indicative of a chaotic landscape still forming in the new world.

Even Sid himself has something to say!

"Rising Tide builds upon the lore of Beyond Earth, breaking away the historical boundaries

of the original franchise and furthering mankind's search for a new home in outer space," Sid said in the release. "Whether colonising the planet's oceans, acquiring new Affinities or meeting exotic new leaders, aliens and units for the first time, Rising Tide offers more ways for players to write their own stories on a new world."

## JUST IN TIME FOR YOUR FURY ROAD DREAMS, GW'S DARK FUTURE IS GETTING A REBOOT

The old, Mad Max & Car Wars inspired game is coming back to life.

Back in the 1980s, Games Workshop used to make games that didn't feature elves or space marines. They made boardgames, wargames, even the odd RPG, and the company was a vastly different beast. They wore their hearts on their sleeves, and were quite happy to borrow inspiration from all kinds of sources.

Dark Future was one such a gestalt. It was a clever, grid-and-miniatures based game of road war between elite 'operators' and the gangs that preyed on the weak in a kind of noir cyberpunk future. The models for the game were all diecast car scale, so on top of the ones that came in the starter set, it was easily expandable. I still have a copy on the top of my book shelf.

Now, possibly inspired by the success of a certain Mad Max film, GW and developer Auroch Digital have announced a video game reboot of the series, turning the game into a turn-based strategy game following the career of an agency of crime fighting sanctioned operatives.

We haven't seen much in the way of gameplay, and it is a bit cheesy - but very flavoursome, and true to the intense media feel of the original game.

The only mystery, though, will be what platform the game comes out on. At the moment, that's up in the air.

But we're certainly curious. For a bit of Dark Future trivia, there was a series of novels based around the game, and one of them even featured an aging Elvis Presley as a main character. He had never died; he just went into a different line of work. That's the kind of weird that made Dark Future so much fun.







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# The Perfect Gaming Monitor

Looking at things well is important

**S**o the final specification and onsale date for Oculus has finally been announced. Cause for celebration? Well, yes, it is. Anyone who has tried the dev kit versions of Oculus Rift has swum in the deep end of Lake Kool Aid. It is, without hyperbole, game changing.

But how will gamers use it? Will it be the primary gaming device – or one that's only pulled out for special occasions? If you had asked me that a year ago I would have forecast a time ahead when we, the hardest core gamers, only run a small cheap and basic monitor for desktop and 2D use, but how wrong that would have been. Because the last few months have seen an exciting and unexpected shake-up of the whole monitor scene.

Having sampled some of the new screens lately there's just no way I could not invest in one of the new lovelies. But, it is time to wait just a little longer, because the perfect PC game monitor is not quite upon us... more fusion of design technologies is needed.

FreeSync and G-Sync are truly amazing. Really truly. They're both "why didn't someone think of doing this sooner?" technologies. Bennett's written extensively here about those two, and with an enthusiasm I share. You just haven't seen smooth until you've run either – it is as good as GL Quake was on a CRT! Solid, too, with no tearing.

The usual gaming routine you churn through when playing a new game is gone. There's no more finessing the options to get another few frames. There's no more eyeing the FPS meter on-screen as you play,



trying to reconcile various parts of the game world with your hardware's performance. No more 'good' or 'bad' areas of a game world, so in turn there's no need to configure the settings to be smooth in the lowest common denominator areas to avoid inconsistency in game smoothness. No, it just works.

## RED OR GREEN, AGAIN...

The trouble is that right now you need to commit to either an AMD FreeSync monitor, or one with Nvidia's G-Sync technology. You can have both in one, as there are, according to Nvidia who I spoke to about the issue, no licensing


knows how much money developing these, and that the cost of the circuit board for Nvidia's G-Sync adds at least \$100 to the monitor's cost (FreeSync requires no custom electronics).

Yet, I wonder why monitor manufacturers are currently choosing one or the other?

## SHAPES AND SIZES

Meanwhile, we're agape as a stunning variety of shapes and sizes arrive at pace. The freakiest dimension is the 21:9 ultrawide wonder. The width I like, the height, not so much. I just spent a couple of weeks with the LG 34UM67-P. In racing games it was a dream, where the helmet-esque slit-vision works well with what you need to see, but in flight sims it was more than useless, and FPS suffered too. This particular screen only has 1080 vertical lines of resolution, where 1440 is coming in other ultrawide's.

What it needs is another couple of inches of vertical height, along with, say 1600 lines of vertical res, and with a fat ultrawide width running at 3k res. That'll do me, pig.

As for curved, well the jury is still out on that one. If you use your PC for any kind of design work, then curved is a bad thing. Architects, engineers, CAD/CAM – all suffer with curved displays because it creates an illusion of distortion, making it difficult to create accurate things on screen. With curved TV the benefits are difficult to pin down, other than it all being very nice if you sit dead centre and not far from the screen – which is exactly what we do with our PC gaming. Then there's the tantalising thought of running triple-screen curved... 

Then there's the tantalising thought of running triple-screen curved...

restrictions. For now we haven't seen a single one though. There's no guarantee any such monitor will ever exist and that's a bitch. We upgrade our video cards with far greater frequency than we do our monitors. It's insane that anyone would commit to red or green for a probable period of years. Especially when things are changing so fast.

There's AdaptiveSync as a possible solution. It's for all intents FreeSync by another name, and is also fully open. But again, neither Nvidia or AMD are probably keen to allow proprietary systems to share space in a monitor with a competitor's offering. Not when each spent several years and who



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**Y**es, we know this one's been out for a while, but we think it's worth showing off just how great this game is looking. With regular updates to both the engine and content, it's a game worth coming back to, as it's constantly improving. And did we mention how good it looks? Seriously, this is one visual feast of a game!



# The Traitor General

With E3 2015 almost upon us, we look to the future and the past for clues to this year's biggest surprises...

As this magazine goes to press, we stand perilously close to the time meniscus that separates us from the revelations of E3.

Of all the things to look forward to, this year one question is gnawing at me more than any other: What is Chris Taylor up to? This human dynamo of RTS design has been observing near total radio silence for months, and it's been driving me up the wall. The designer of *Total Annihilation* and *Supreme Commander*, and the founder of Gas Powered Games, found himself in serious trouble a couple of years ago. With no new projects in the pipeline, he tried and failed to kick-start an RTS/RPG set in the days of the cave men. Just when it looked like the lights would go out at Gas Powered Games for the last time, Wargaming swooped in and bought the studio. Now known as Wargaming Seattle, Taylor's team has been working for the past two years for the cashed-up overlords of *World of Tanks*.

But working on what? The disappointing *World of Warplanes* and the promising *World of Warships* have been revealed. *World of Tanks* is now on mobile devices, and they've already released card game spin-offs, both digital and cardboard. The elephant in the room is the genre they've neglected: modern warfare. Today's world of AWACS and AMRAAMs and MANPADS and other dizzying ultra-tech anagrams is more suited to a combined arms approach. Fans have been begging Wargaming for the chance to fight with today's hardware, in a game where jets and ships and tanks can clash.

As of this writing, Chris Taylor is not



doing interviews. But he's conducted plenty of them in the past: Back in 2013 he told the *Three Moves Ahead* podcast of his frustration at selling only a million copies of *Supreme Commander 2*, in a world where you have to move tens of millions of copies to be considered a breakthrough success. With Sergey 'SerB' Burkatovskiy's war chest at his disposal, he could make those numbers. But the question remains: How long before we can get our hands on Chris Taylor's *World of War*? By the time you hold this magazine in your hands, we may already have an answer.

To Ubisoft then, and the return of

of the Smith-Mundt Act in 2013, the US government now has a free hand to create propaganda for domestic consumption. Ubisoft are the masters of moral ambiguity – they'd be more than capable of making a training tool where new recruits are ordered to enforce marshal law.

We can expect more demos for the Oculus Rift; with the reveal of its system requirements, we are one small step closer to the VR dystopia as depicted in *Ready Player One*. The headset will need to be connected to a computer with at least a GTX 970, an i5-4590, and 8 gigs of RAM; it all sounds quite reasonable. But there are still plenty of flashing, hovering question marks: Will staring at tiny screens right smack in front of your eyes for hours on end make you go blind? Will playing Japanese dating sims in 3D make you go blind? Will Facebook let you adjust your privacy settings so that your friends and family can't see exactly how much time you've sunk into *Yandere Simulator 2016*?

Was the entire Oculus enterprise set up solely so that tech investors with insider knowledge could make a mint on the IPO? Is this another doomed high-hopes novelty, like 3D TV or the Ouya, or an indispensable new vector of entertainment delivery? A salient question, for while *Ready Player One* was a hack job, it did have a terrifying premise: it was set in a world where the 80s lasted forever. With the unkillable Simpsons still on the air, and Yooka-Laylee cleaning up on Kickstarter, we may soon face an even worse prospect: a world where the 90s lasts forever. Can you even imagine such horror? The survivors would envy the dead. PC

## ■ The elephant in the room is the genre they've neglected: modern warfare ■

Tom Clancy's original first-person shooter. Now that *Rainbow Six Siege* has been locked in for an October release, let us cast our minds back to the failed experiment that was *Rainbow Six: Patriots*. In purely commercial terms, it was a project that made perfect business sense – a game where your enemy was the only politically correct villain left: Americans who believe in the sanctity of their own constitution. It could've been quite the tour de force, with the gut-wrenching power of *Spec Ops: The Line* times a hundred.

My pet theory on *Patriots* is that the game was not abandoned at all, but is rather being re-tooled as a mod for America's Army. Since the repeal



JAMES COTTEE is awaiting Wargaming's inevitable 'World of Cottee'



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# THE WAR MACHINE



**WHO** STEVE WANG  
**WHERE** BIGWORLD  
**WHY** WORLD OF TANKS TECH

World of Tanks is one of the biggest success stories in PC gaming, and the technology that keeps this juggernaut moving is made right here in Australia. We talked to BigWorld CEO Steve Wang about what it takes to survive in the Australian games industry, and about Wargaming's ambitions for the future...

**B**igWorld lies nestled in amongst the rapidly gentrifying laneways of Sydney's Ultimo; out of sight, and largely out of mind. For years now this quiet achiever has been an export success story, licensing MMO middle-ware to fuel the free-to-play gaming boom in the Far East. But everything changed when they started dealing with an obscure company working on a new kind of tank game. We recently had the chance to sit down with BigWorld chief executive Steve Wang, and he told us that he was as surprised as anyone about the spectacular rise of Wargaming.

"Six years ago they were a successful games development company based in Minsk, in Belarus. They were making largely strategy games for the Eastern European market. And then they made World of Tanks, and now they're like 3,600 people globally, across 16 countries. In six years. With hundreds of millions of dollars of revenue."

It was BigWorld middleware that made that growth possible, and Wargaming liked it so much they bought the company. "There's a bunch of reasons why it made very good sense for them. They've got a key technology that they're reliant on, and their game starts to take off like there's no tomorrow, and they still have to put in a support ticket and hope that it would be turned around quickly.

"Victor [Kislyi, Wargaming CEO] at one point put it to me, he said: 'Look, put it this way. If you're in a business where you're making, say, for the sake of simple numbers, \$365,000,000 a year, if your game is down for a day, it's cost you a million bucks. So of course I want all your engineers being very attentive to my problems!'

"It's been an interesting journey working with those guys. They're really filled with a sense of success, and they're really keen to keep on pushing forward, and find new things. The forward momentum in Wargaming is quite remarkable."

Steve wanted to make it clear that BigWorld was able to focus on making this technology in the first place because of some well-targeted government assistance. "We participate in the Research & Development Tax Incentive Scheme. Which is not just games industry specific, but any company across any industry, not just software, that's doing research and development is eligible. And I think that's the safest and best one that many games companies, if they're experimenting with new things, would fit the criteria for."

"It is a tax incentive, so it's just a reduction in cost rather than a grant. But that has been very helpful for us. In general, I think, we'd applaud that approach, and hope

■ ■ When you create a hit like a Fruit Ninja or a World of Tanks, suddenly, out of nothing, hundreds of millions of dollars can appear ■ ■

that it continues to foster research and development in Australia."

To put things in perspective, Steve pointed out the increasing policy focus on Australia's deficit, and how the annual government Export Awards spotlighted two high achievers from the gaming sector.

"Big World was a finalist in the Information/Communication/Technology category, in 2014, for New South Wales. And the winner, over all, across all different categories, in Australia, was Halfbrick. They had 95% export dollars, and we actually had 100%, because local games companies aren't making MMOs. All of our customers

are overseas.

"I think the possibility of reaching out with a product like Fruit Ninja, or through our technology with World of Tanks, has huge scope. And the good and the bad of that is that with it just being digital, it's just one download, fast bandwidth, 15 minutes, and someone in any part of the world could've purchased it. It has no production pipeline costs, no cost of goods. When you create a hit like a Fruit Ninja or a World of Tanks, suddenly, out of nothing, hundreds of millions of dollars can appear. The flip-side, of course, is that it's incredibly competitive as a creative industry. It's very hit driven."

"That seems to be the hardest message to get across governments, because they want to have incremental little success stories and things that fit a general growth model. And when you look at those industry stats, overall, it's a growing industry, globally. And that global money can flow back into Australia. But the way it turns out is being quite hit driven. Which means you can't get dejected by a few investments that result in zero. It just doesn't fit that shape. So I think governments fundamentally have a problem with that. It really requires, I think, an embracing of a re-think of the bigger picture. Of trying to grow an industry, what that actually means. And where that support is."

Steve sees no other reason why we can't be part of the global growth in gaming. "We've got the talent here, we've got the infrastructure, the technology, education, clever people, creative people, we've got all the building blocks for those things. The right sensibilities, even more influences from Asia and other things. We've got lots of advantages. But it's really hard to do."

We asked about what BigWorld is currently working on to improve their technology, and Steve pointed out that there's a lot to be said for steady, incremental improvement of core performance.





“A good recent example of that is Netflix. We’ve had streaming services of video before. But somehow, the user interface, and that experience, if you’ve experienced Netflix, this is like: ‘Yeah! This is how it should be! It should be this smooth.’ So they’ve obviously got fantastic streaming software, they know exactly what they need to do with that product.

“In terms of the things that are behind-the-scenes for the Big World engine, all the connectivity issues with handling millions of players together, and making that better. More efficient, less memory. Particularly from a user perspective, streaming systems and other mechanisms mean that perhaps they can start playing the game after a smaller download, and the rest of it can download later. Integrating these kind of technologies, we’re developing them internally.”

Aside from progressively ramping up the engine’s performance so it can handle millions of players while balancing all the associated complex connectivity, they’re also making it so that it can integrate with other renderers. “We’ve created what’s called an Abstract Renderer Layer. It sits between the server and the client, so it’d be easier to hook it in with, say, your mobile devices, which would have to have their own custom renderer because they’re smaller and have less footprint, and you need to do different optimisations perhaps. Or integrate with some other industry-standard ones, like Unity, for example. And then hopefully more people who are familiar with Unity as a development engine could build a prototype and bring it to the Wargaming Universe of Games. because that’s certainly one of the things that is a huge opportunity for Wargaming, going forward. And it’s something that we’ve been lucky to become a part of.”

Amazing as it sounds, Wargaming is looking to even more growth, on top of their existing suite of games, and at least two unannounced titles. “They’ve grown so massively, and I’m still just flabbergasted by how they’ve managed to keep it all together.”

The leaders of Wargaming are not just ambitious, but also magnanimous – company parties are the stuff of legend, with staff from around the world flown to the Eastern Bloc to witness fly-overs from legendary fighter aces and to go on rides in restored WWII tanks.

Steve was also able to corroborate the legend of the vodka ice party tank.

“That was true. I have actually a photo of that. It would’ve been about that big [he extended his hands over a metre apart], and it just looked like one of those ice sculptures. Like you’d normally see a swan. They could pour in the unchilled vodka, and as it rolled down the barrel of the tank it came out chilled, because of the ice around it.

“Creative genius, in many different ways! You really want one of those for your next party, I think.”

Steve doesn’t have much free time to play World of Tanks himself, but he does enjoy the odd round in his KV-1, one-shotting unwary foes with his 122mm cannon. Though after witnessing the WGL Grand Finals, he’s had his eye on the T-54 Lightweight.

“One of the advantages of being a Wargaming employee is as part of getting your payroll, you get your payroll, and then you get your gold. [laughs] So it means that you don’t have to worry about the upgrades so much.” **JAMES COTTEE PC**



# Way of the Dragon

When your overall experience of the game relies on finding that one special thing.

As someone who has reviewed a lot of games, “enjoyment” can be a tricky thing to quantify. I’ve also often wondered if overall perception is skewed based on what most engages the player’s attention. So, if there is something that niggles you about a game, you might be inclined to find examples of more stuff you don’t like. Or, if there is something about the game that you love, nothing else bothers you as much as it otherwise would.

For example, I loved the combat and characters in Dragon Age 2 so much that I had quite an indulgent attitude towards its “one cave”. In Dragon Age Inquisition, traversing more, and more (and more) desert left me too grumpy to even talk to most of my companions. Who is Josephine again? So, when a helpful soul on the BioWare forum told me that you can buy “power” from a Skyhold merchant, I stopped trudging around and sprinted to the endgame.

Unsurprisingly, at level 15 and still on Nightmare, the final battle made a mess of me, several times. Deciding I needed more experience before trying again, I started hunting dragons. The first one I found even had a name; Gamordan Stormrider. Well, it’s probably just the name of the type of dragon, but it’s still cool. And, wow, Ms Stormrider sure knew how to electrify all the water around her so that you take lots of damage when you’re standing in it.

Have you noticed the sudden change in my enthusiasm for the game? After only three dragon fights, I was ready to yell, “this game rocks!” to passersby instead of incoherently griping about sand. To unlock fighting one of the dragons I even had to complete a



lengthy desert quest and I was whistling cheerfully the whole way, knowing what was to come. Simply, the dragon fights in Dragon Age Inquisition are diverse and interesting. I really like them a lot.

As well as having a variety of resistances and damage types, dragon levels range from twelve to an amazing twenty-three. I haven’t quite bested that last one yet. In fact, I imagine I’ll have to actually complete quite a lot of the quests I skipped first, for levels. Knowing a challenging fight is waiting might be enough to spur me on, though. Also compelling is the tricky terrain, the “twists” like dragonlings and extra strategic elements, like disabling legs.

■ Knowing a challenging fight is waiting might be enough to spur me on... ■

Most interestingly, I feel greater investment in other aspects of the game now, too. One of my favourite moments was felling the Ferelden Frostback for the first time. Everyone was dead except Blackwall, who promptly said, to no-one, “I’m fine but that first blast took some hairs off my head,” then took delayed fire damage and died. Ah, Blackwall. Suddenly I was affectionately reminded of how he promised me “all of the dances,” at the Orlesian ball.

Oddly enough, I’d previously dumped Blackwall. I’ve never cared enough to break off a videogame romance before. That was weird. Of course, after murdering all of these dragons together (he has a range of taunt options and a really solid shield

wall) I started feeling quite an aura of forgiveness, not that there was any kind of “take him back” dialogue options, worst luck. Still, dragon hunting did unlock a pretty hilarious drinking moment with The Iron Bull.

And, of course, dragons typically guard the good loot, not to mention their having useful body parts for crafting. Until being unable to beat the final battle, I’d had an offhand approach to switching around armour. I’d only bother if there was something obviously much better to equip. Nightmare difficulty peaked, for me, at level ten and encounters became gradually easier. As soon as you have dragon scales, however, you have to use them, surely.

So, despite my last column on DAI, I did find an aspect to the game that I really enjoyed and this spilled over from combat into engagement with characters and experimenting with loot. I’m a bit shocked that I’ve invested 206 hours in the game, so far. Well, as much as I’m now enjoying it, I do still resent all of the walking around. Ironically, the game would likely never have had such an abundance of excellent dragon fights if it weren’t for the ridiculously large levels.

Players of AAA RPGs have all sorts of expectations that are unique to their preferences. One of the most prolific criticisms I’ve seen of DAI is that there aren’t enough hair options for female characters. Personally, I’m cool with my quinari lady’s do. I mean, Patch 2 also gave her a nifty beard (which seems to be a colour option related to horns that was changed with shaders). If bad hair ruins the game for some, and dragons give another pure joy, what aspects make or break a game for you? 🐉



**MEGHANN O’NEILL** once scoffed at players asking for an option to kiss their love interest at whim. Then she kissed Blackwall so many times he started ribbing her about it.



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# A Collection Aside



This month, **MEGHANN O'NEILL** attended Freeplay Independent Games Festival to gather experimental experiences in games art and culture. As well as playing one of everything, she learned some life lessons and listened as designers generously shared their personal stories. Oh, and she would like to apologise to the Freeplay volunteer who she struck very firmly over the knuckles with a wooden spoon during Lemon Joust. She's just terrible at sports, as you will learn within.

When I chat with other parents about games, and writing for PC Powerplay, the first thing I usually hear is, "How do you get your kids to stop playing games?!" Mostly, mine play less than theirs, they don't play as a family and they actually just want to complain about Call of Duty. At Freeplay, I had lunch with a group of experimental game designers and a non-gamer friend. Amazingly, but also not so, she introduced herself by saying, "How do I get my kids to stop playing games? They never stop playing COD."

The unanimous reply was, "Just let them play." It wasn't delivered unkindly, but she had evidently never imagined any answer other than an affirmation like, "Damn videogames, hey?" Another person at the table referenced the Tripod song 'Does It Have Guns?' which we had heard performed with the Melbourne Symphony Orchestra the previous night, as a way to suggest that there are, in fact, a vast range of available game experiences. My friend offered, "Well, I guess my kids do play FIFA, sometimes."

So often, gamers ourselves ask, "Why talk about social justice, inclusion and experimental games? Why waste time/ words?" If you want to be the person who exclusively plays COD and FIFA, go for it. Your mum totally isn't complaining to someone about you right now. No seriously, that is cool, but is such shallow engagement really satisfying, overall? Personally, I want to be able to challenge people to see all games as some mix of fun, social, complex, inclusive and artistic elements. Even COD, don't you?

Freeplay is the games festival that is fundamentally concerned with artistry and culture. Although I used to see it as a niche event and not in this way at all, I now believe it is entirely necessary. In its tenth year, it was (fittingly) held over ten consecutive days that combined online discussions, a hands-on fete and a range of structured speeches



■ imagine playing by manipulating the dexterous nipples on a stuffed cat ■

and workshops. I even presented a seminar myself, that aimed to challenge designers to examine the transformative potential for music in their games.

Freeplay is a difficult event to summarise quickly, but imagine playing by manipulating the dexterous nipples on a stuffed cat, for example, or discussing word choice for your narrative with attendees affected by ableist/sexist/racist/etc language. Is Twine the most accessible game development tool, as many will say? This was challenged during the Unconference, highlighting its reliance on literacy, but game mechanics alone can be a conduit for self-expression, too.

Next, you might listen to queer gamers and people on a games industry tangent touch on the pivotal games that made them, from Mass Effect to "spin the bottle". Incredibly, fight back tears as game composer, Austin Wintory, sincerely apologises for recording his keynote instead of delivering it in person. Despite the difficult circumstances forcing his absence, he perfectly used that very context to challenge designers to prioritise people over learning and logistics, while seeing all of life and games as inextricably intertwined.

So, how does a parent get their kids to stop playing videogames? Forget that. More importantly, why are they asking this? The non-gamer parents I know are intelligent and caring people, after all. Many, without a lot of critical thought, simply see the most visible games as a waste of time, or worse, as actually harmful. Freeplay is Australia's answer to this pervasive view. We hope to share some highlights and games on the following pages that you can play and engage with yourself.





## FREEPLAY ONLINE FESTIVAL

<http://www.freeplay.net.au/2015-program/online-festival/>

**T**hirteen talks and panels, featuring forty speakers, were livestreamed and archived during Freeplay. They are free to watch and cover a range of content, including interviews with designers, collaborative approaches to game development and methods for game curation. We have chosen two panels on which to comment. Both are concerned with diverse representation and we hope to connect people with experiences they might enjoy and/or resonate with more personally.

Firstly, the Romance and Queer Representation in Games panel combines accounts of growing up as gay, bisexual and/or transgender with a list of games, many of them free, that the panelists enjoyed or found meaningful. The focus is on both romance and sexuality, with one of the very first examples being the Mario series, which has its romantic narrative, despite perhaps being, “the straightest game ever made.” Fundamentally, panelists argue for the legitimacy of all romantic content in games, as it reflects an important aspect of life for many.

So, in your visual novel, RPG or plumber platformer, are non-straight characters important? Are we perhaps seeing a wider range of sexual orientations in games, currently? Why is it so crucial that many voices are represented in this conversation?

As panelists explain, growing up “feeling different,” or being treated differently, can be uniquely challenging. Allowing all players to be, see and interact with a mix of realistic characters can help to demonstrate the true scope of normal.

For example, *Elder Scrolls Online: Tamriel Unlimited* is raised for its incidental moments normalising non-straight orientations. You might get a quest to find flowers for a guy’s dying husband or choose to marry someone of your own gender. In *BioWare* games, like *Dragon Age* and *Mass Effect*, this is treated mechanically, allowing you to pursue a romance with whichever kind of partner suits you. It is even noted that gay characters are visible in the *Borderlands* universe.

Robert Yang makes more explicit, experimental games that include “pleasuring a gay car” and spanking a guy. Christine Love’s *Digital: A Love Story* is mentioned as part of the idea that contemporary science fiction often treats AI characters as “other”; Not necessarily gay or straight, male or female. This can also be seen in *Dominique Pomplamoose*, a musical detective adventure game in which the main character’s gender is non-binary.

The panel also nods to content that “aren’t just two guys, or gals, kissing,” but frames narrative in less-stereotypical ways, allowing for people to relate to them how they will. *Portal* is a story about two women, after all. How was the relationship

between Sam and Lara intended in *Tomb Raider*? Whether it is suggestively stroking a flower, heroically coming out or enjoying a game aimed at fostering empathy, the panel references a lot of content, if you are further interested.

Another of the panels, titled *Videogames and Indigenous Cultures*, explores the development of Upper One Games’ *Never Alone*, a Native Alaskan story, told as an evocative platformer. The discussion includes accounts of how youth felt proud to see themselves on screen and that elders in the community enjoyed passing on stories by connecting with people in new and innovative ways.

Laying a foundation for inclusive development relies on preserving aspects which are thematically important. If *Never Alone* is a story of interdependence, resilience and survival, can it be multiplayer? Does the protagonist of the traditional story have to remain a boy, or can this be reinterpreted? Should the companion be a fox or a wolf? To best celebrate, share and extend culture, consultation must be a constant consideration.

Whether it’s building a range of sexual orientations and gender presentations into game narrative, or imagining “World Games” potential, Freeplay’s Online Festival heralds a future full of vibrant and inclusive experiences, while highlighting and celebrating the many games that are already exemplifying this movement.



## FREEPLAY FETE

### VERTIGINOUS GOLF

DEVELOPER KINELCO  
PRICE \$15  
[www.kinelco.com/vertiginous-golf](http://www.kinelco.com/vertiginous-golf)

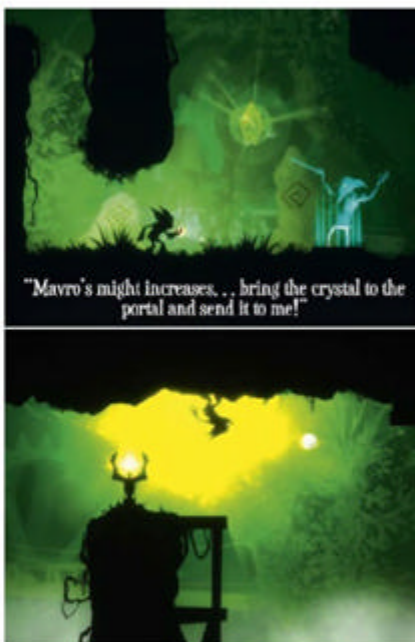
■ At Freeplay's fete, alongside a range of workshops (including the one where you made stuffed toys into game controllers), people were invited to get hands-on with games, most of which are being made locally. With Persian rugs, inscrutable steampunk objects and lofty, floating platforms, Vertiginous Golf certainly drew a crowd. Think neon, virtual reality putt-putt, set in an alternate, rainy past.

The levels are complex, involving moving parts, pipes and ramps, which you can view using a hummingbird camera. Courses can offer a real challenge, and I was frequently, shall we say, "very" over par. It is a game that requires patience and careful judgment rather than luck, but your slow approach is supported by lush piano music, a bit reminiscent of Michael Nyman's scores, and fluttering, metallic sound effects.

Vertiginous Golf is definitely more Lee Carvalho's Putting Challenge than Bonestorm, but it is a unique and intricate take on the golf genre. What does the Victorian gentlewoman do with herself in such dank weather, after all? Perhaps there is time for the driving range, a new challenge against some other lonely soul, like racing, or simply another hole with its impossibly lovely view.



EARLY  
ACCESS



### OSCURA: LOST LIGHT

DEVELOPER CHOCOLATE LIBERATION FRONT  
PRICE \$10  
[oscuragame.com](http://oscuragame.com)

■ Dying pointlessly frustrates me. Hence, I don't play a lot of 2D platformers. In the case of Oscura: Lost Light, however, I find myself failing frequently and actually wanting to try again. This is largely because the game is also part puzzle, requiring the manipulation of crystals to reverse gravity, break walls and solidify platforms. Success often requires thinking the problem through, rather than solely relying on reflexes.

Set as a prequel to two mobile games in the series (although this is on PC), Oscura must collect the pieces of the Aurora Stone he broke by disobeying the lighthouse master. No-one likes a world plunged into darkness, after all. There are beasts to evade, shadows to hide in and perilous, mechanical artifacts to circumvent. The art style combines black walls with strong, single colours and quirky details, while the music fuses a modal melody with modern drumbeats.

This is a challenging, but always enjoyable, experience which never forces you to load very far back when you die. Towards the end of each chapter, the level gets noticeably more difficult, providing the impetus to just push on a little further. It's the thinking woman's platformer, and from a local developer to boot.

RELEASED

## JAM IT

DEVELOPER LEIGH WHITE  
PRICE TBA  
[www.throwbackgames.net](http://www.throwbackgames.net)

■ Located in the middle of the fete's hands-on gaming section was a consistent clutch of people yelling at each other. Soon enough, I was dragged in to play and it was all, "Meghann, you have to run back to the free throw line, shoot, shoot, what are you doing?!?" I mean, goodness, sports? I'm a computer nerd. Despite probably needing to know how to play basketball as a prerequisite, this is a humble, yet unreasonably exciting, multiplayer experience.

The developer was showing it on a Commodore 64 with a Protovision 4-Player Interface allowing for two-versus-two joystick mayhem. Interactions involve movement and various manipulations of the left button, in order to block, shoot and actually score reliably. The game is quite easy to learn, and I found myself abusing teammates and opponents in short order. Despite the terrifying sports element, it's actually a fun, social way to get nostalgic for old games and good times.



PREVIEW



## FREEPLAY AWARDS

### PUSH ME PULL YOU

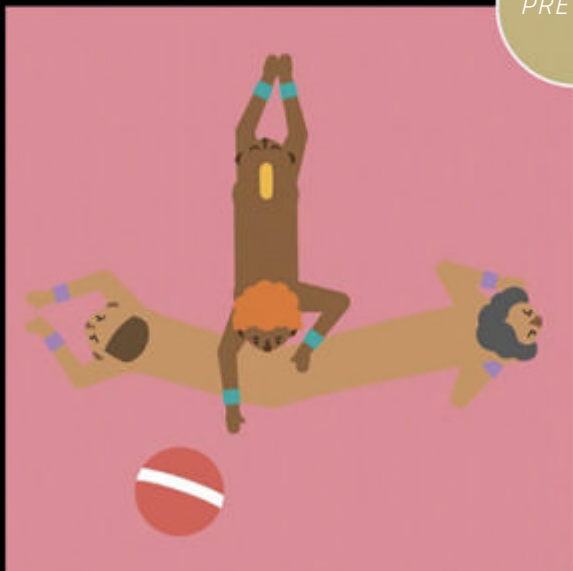
DEVELOPER HOUSE HOUSE  
PRICE TBA  
[pmpygame.com](http://pmpygame.com)

■ Each year, Freeplay invites Australian developers to submit their games to be judged on aspects of design and presentation. Push Me Pull You was a finalist in the category of Best Design. In essence, it is an angle on wrestling, in which your two-headed character aims to maintain control of a medicine ball. The other head may be controlled by your teammate and the other character, by other players. Each side of the court fills with colour while the ball is present, with fullness awarding a point.

Well, technically, it's not really the heads you are controlling, but the heads and their corresponding arms which are desperately scrabbling to pull a tubular body over a wooden floor in impossible directions. The physics take some getting used to. Do you try to trap the ball inside you, or can you force the other players backwards with pressure in the right places? How elastic do you feel? How long, how short, how powerful?

It's hard to pinpoint precisely what is so compelling about the game. The excitement of a multiplayer sports match? Mastering the weird gameplay? Personally, I like the idea that there is a satisfying sport for these people and their remarkable bodies. I used to go to school with a sight-impaired guy who played cricket with modified rules. When some sighted, blindfolded teenagers we knew went to play one time, they got their butts kicked really badly.

There's something about "everyone can play" and "unusual people can play better" that provides an opportunity for the creation of interesting mechanics. You may be a two-headed tube, but that's who this sport is made for, and you can always choose your skin colour and gender, if you like. From twenty-two digital finalists in six categories, Push Me Pull You won Freeplay's overall award, as well as Best Design. The award acknowledges this as a very unique and engaging experience.



PREVIEW

RELEASED



### FUTUREVOXIMAGINARIUMDOTEXE

DEVELOPER BEN WEATHERALL AND JASON BAKKER  
PRICE CHOOSE YOUR OWN PRICE  
[www.futurevoximagariumdotexe.com](http://www.futurevoximagariumdotexe.com)

■ As a finalist for Best Audio and Best Tech, FUTUREVOXIMAGINARIUMDOTEXE is a collection of aural vignettes adjacent to which your voxel person will wander. Each song is built on repeating musical material, whether it is clean piano chords or fierce, electronic vocal sounds and textural layers are added, often radically altering instrumentation, to build each to a climax. You are invited to experience each new level as the music changes, but gameplay is largely limited to movement and light interactivity.

Does that mean there is no story? Not at all. The setting combines peacefulness with enigmatically sinister moments, just in a way that is influenced and driven primarily by sound. If you have an eye for detail, you'll find everything from parcel delivery drones to, I don't know, rat ghosts? It's an arthouse experience, so interpret the action how you will. It's frightening, uplifting and curious, while mixing dystopian elements with pulsing nature, seagull sounds with mallet percussion.

I asked my family to play this and give me their impressions. As well as arguing over the enigmatic storyline, my non-gamer husband and I disagreed about whether this was more art or more game. Oddly enough, he was arguing "game." With its rich palette of tone colours, FUTUREVOXIMAGINARIUMDOTEXE is a treat for your ears. As a footnote to Freeplay, it's an experience that explores exactly what it intends to, and my kids loved it. I do hope they spend lots of hours with games like this as they are growing up.



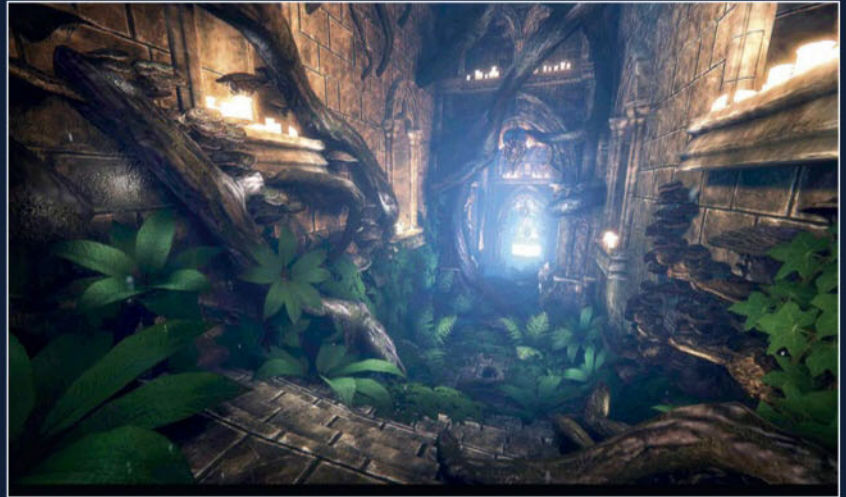
# 10 to Watch



## AEDRYN'S CRADLE

**DEVELOPER** MOJO GAME STUDIOS  
**PUBLISHER** MOJO GAME STUDIOS  
**DUE** 2016  
[Mojogamestudios.com](http://Mojogamestudios.com)

An open world fantasy adventure that sees an exile caught 'twixt the struggles of man, nature and the gods. It may sound well trodden, but the game promises to deliver a new and compelling experience thanks to the mouthful that is skill based strategic first-person melee combat (\*wipes sweat off brow\*). Combine this with the fact that character progression is governed by exploration and discovery, or that equipment augmentations customise how said combat plays out and you can consider our interest piqued.



## VECTOR THRUST

**DEVELOPER** TIMESYMMETRY  
**PUBLISHER** ICEBERG INTERACTIVE  
**DUE** JULY

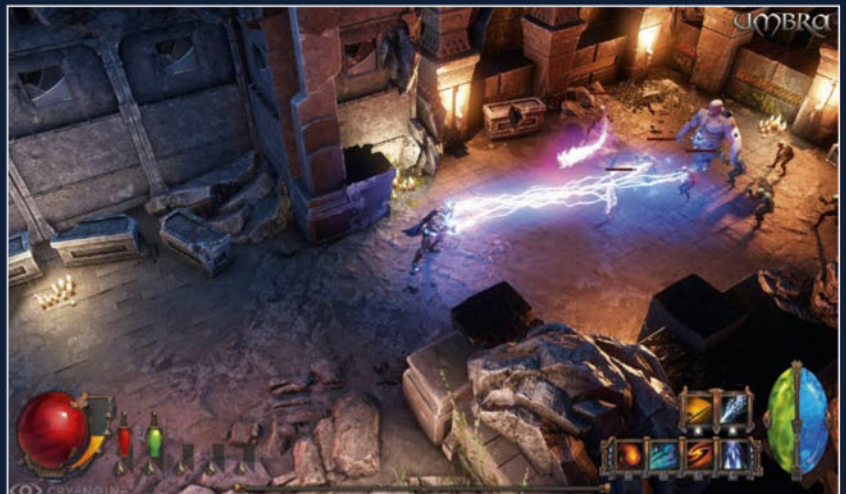
[Time-symmetry.com/games/vector-thrust](http://Time-symmetry.com/games/vector-thrust)

A flight combat game with a pretty neat cel-shaded aesthetic in tow. Not only will Vector Thrust feature quick action game modes and a lengthy story based campaign, it will also allow players to tweak, edit or mod almost anything. Custom skins, individual units, game modes even the design of the scenarios themselves are free for you to play with. On top of that, recently the devs have promised weekly content updates to keep things fresh.

## UMBRA

**DEVELOPER** SOLARFALL GAMES  
**PUBLISHER** SOLARFALL GAMES  
**DUE** TBA  
[umbragame.com/](http://umbragame.com/)

Despite using one of the most modern engines around (the powerful CryEngine), Umbra is, at its bloody heart, a pretty old school game. An action RPG inspired by Diablo II, Umbra promises a number of features that could set it apart from the ever growing ARPG crowd. These include: a deep crafting system for weapons and armour, the ability to build a house with material gathered in game and a class free character development system.



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## SPACE NOIR

**DEVELOPER** N-FUSION INTERACTIVE  
**PUBLISHER** UNITY GAMES  
**DUE** JULY  
[www.unitygames.com/games/space-noir](http://www.unitygames.com/games/space-noir)

Meet Hal Markham, a private contractor for the Intergalactic Protection Consortium (now there's a company name that doesn't sound the least bit sinister). After an "intergalactic peacekeeping mission" goes bad, not only does Markham lose his idealism but also his fiancée. Hal turns to the demon liquor for comfort, supporting his new lifestyle by taking on bounties. It was thus that Hal was pulled into a vast conspiracy full of twists, corporate espionage, and most importantly, awesome looking space combat. Oh and did we mention there were pirates?



## OKHLOS

**DEVELOPER** COFFEE POWERED MACHINE  
**PUBLISHER** COFFEE POWERED MACHINE  
**DUE** 2015  
[www.okhlos.com](http://www.okhlos.com)

Long in development by the two man team at Coffee Powered Machine, Okhlos is an ancient Greek mob simulator with a touch of Pikmin. Players are charged with forming a mob of Greek citizens – slaves, soldiers, merchants, philosophers, legendary heroes and more – into a chaotic army powerful enough to take on the gods themselves. Each individual Greek has their own skills, making each mob unique. According to the developer blog, it looks like the mob will be controlled through a "verb" interface, with commands such as Attack, Defend and Disperse available.



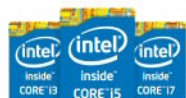
## BLOODSTAINED

**DEVELOPER** KOJI IGARASHI  
**PUBLISHER** TBA  
**DUE** TBA  
[Igavania.com](http://Igavania.com)

Koji Igarashi – the godfather of the gaming style commonly known as "Metroidvania" – has turned to Kickstarter to gauge community interest in a spiritual successor to his previous works. According to the Kickstarter video, Igarashi had already secured funding through more traditional means, but needed to prove there was demand for such a game. The fact that the Kickstarter reached its \$500,000 goal within the first two hours and is, at the time of writing, over triple the asking amount, we'd say the demand is there. But who are we to judge?



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## PLANET EXPLORERS

**DEVELOPER** PATHEA GAMES  
**PUBLISHER** PATHEA GAMES  
**DUE** JULY (CURRENTLY IN EARLY ACCESS)  
[Planetexplorers.pathea.net](http://Planetexplorers.pathea.net)

Long in Early Access, Planet Explorers is a game that does what it says on the tin, being an open world, voxel based sandbox adventure and all. The game pops players into the year 2287 as a member of one of the first colony ships to be sent to the planet Maria. Unfortunately, the ship quickly loses control and crashes. Fortunately you survive. Players must then explore the planet to discover what happened to the ship, and use the resources available to build shelter, equipment, vehicles and other gear needed not only to survive on the hostile planet but to conquer it.



## KNIGHT SQUAD

**DEVELOPER** CHAINSAWESOME GAMES  
**PUBLISHER** CHAINSAWESOME GAMES  
**DUE** EARLY ACCESS  
[knightssquadgame.com/](http://knightssquadgame.com/)

Bomberman meets Gauntlet meets sports meets traditional FPS game modes MEETS EVERYTHING EVER (\*breathes\*) in this frantic and extremely enjoyable 1-8 player top-down action game. Offering a range of game modes including capture the flag, soccer, deathmatch and more, players can duke it out with classic weapons (read: swords) or other knightly favourites such as high explosives and laser guns. There's not a lot more that needs to be said, really.

## NEKRO

**DEVELOPER** DARKFORGE GAMES LLC  
**PUBLISHER** DARKFORGE GAMES LLC  
**DUE** AUGUST (CURRENTLY IN EARLY ACCESS)  
[www.darkforgegames.com](http://www.darkforgegames.com)

Imagine the charm of Dungeon Keeper combined with non-traditional RTS/Action gameplay and you have some idea of what to expect from Nekro. Players take the role of one of a variety of necromancers vaguely conforming to RPG archetypes, all looking to take down the king via the medium of wanton slaughter. Dead enemies are harvested for their blood, which in turn is used to summon minions, but rather than having direct control of said minions, the player can only guide them towards a target. Knowing which kind of minion to summon for any given situation will be key to winning.



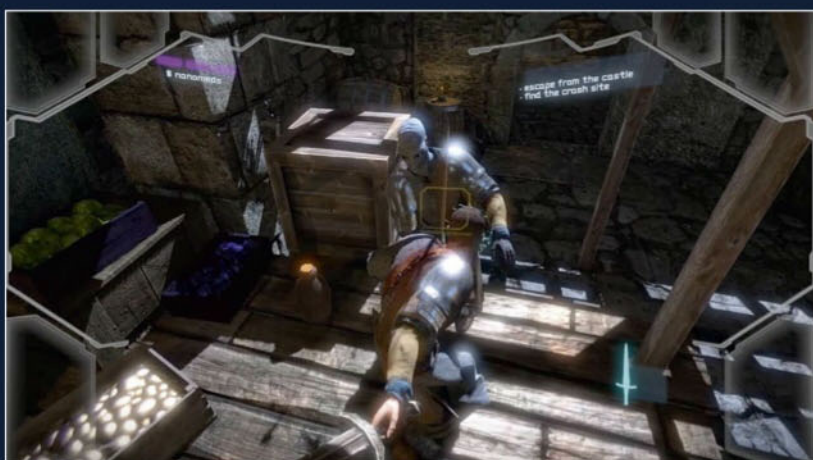
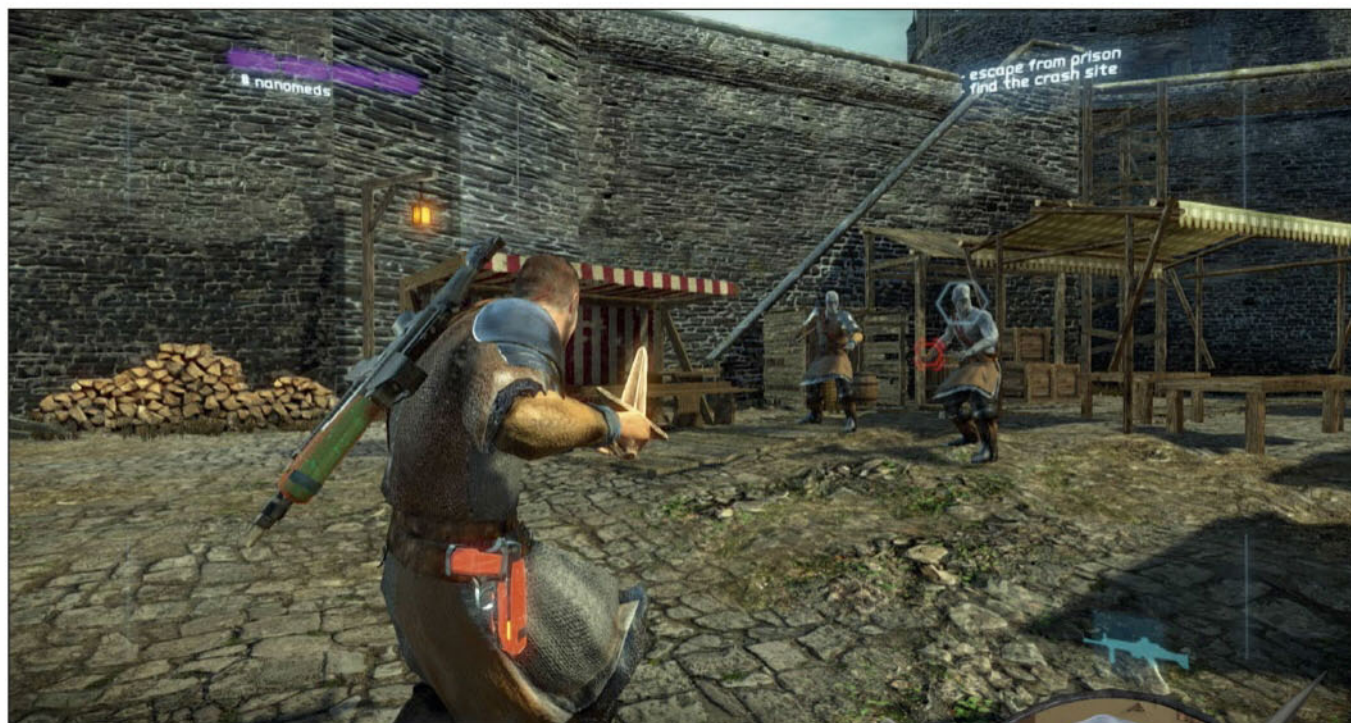
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## ALIENS, TROLLS & DRAGONS

DEVELOPER KUBOLD

PUBLISHER KUBOLD

DUE TBA

[www.aliens trolls and dragons.com](http://www.aliens trolls and dragons.com)

A third person episodic adventure game with native Oculus Rift support, Aliens, Troll & Dragons takes place in a near future in which rapid progress in spacecraft propulsion has given us the technology to explore distant worlds and search for intelligent life in the void. What we find? An inhabited planet that is an analogue of medieval Europe. Of course the lander crashes, the crew is captured by the locals and the gear looted. Now, it's up to John Knap, chief of security, to explore and take on (with swords and futuristic weaponry, mind you) the locals, the land and the wildlife.

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PREVIEW

# NOT YET OVER THE RAINBOW

Tom Clancy's  
Rainbow Six: Siege

DEVELOPER UBISOFT MONTREAL  
PUBLISHER UBISOFT  
DUE 2015  
[Rainbow6.ubi.com](http://Rainbow6.ubi.com)





**SIMON  
PARKIN** is  
prepared to  
kick down  
doors

**F**ive hostage-takers are barricaded inside the press area on Air Force One, but nobody believes the pen is mightier than the sword in this room on this day. Their fortifications were hastily arranged, but they remain nevertheless robust and widespread. Doorways are shielded with wooden barricades, crudely nail-gunned to the frame. 'Sledge' will make short work of these, once he's clambered up the ladder onto the plane's wing. His Thor-hammer can breach most fortifications, and he's heavy enough to absorb at least a couple of bullets if there's a gun pointed his way on the other side. Watch him trample the roll of barbed wire laid at the foot of the door like it was a patch of daisies.

More troubling are the reinforced walls that they've sympathetically erected around the hostage. These prevent our bullets and grenade blasts from punching holes in the plaster, gaps through which we might be able

to poke a muzzle in order to spray and pray. 'Thermite', a demolitions expert recruited from the ranks of FBI SWAT, could make short work of those with his thermite breach charge, the only tool that will box through these resilient wall barriers. But the resulting explosion might kill the hostage (whose pleading, guiding cries we can hear this side of the wall). If that happens, the round will be instantly lost. No. Better to take the stairs and find away to get above the room. Knock a hole in the ceiling, and we'll be free to clear the room, like angels raining justice from above...

First published in 1998, Tom Clancy's counter-terrorism thriller, *Rainbow Six*, provided the grist for what would become the author's best-known action video game series, one that long outlived the novel on which it was based. The first game, also released in 1998, was unlike most other military-themed simulations of the time. The





authentic settings (murky stairwells, forsaken office corridors) were filled with authentic mechanics: enemies could be killed with one or two bullets while a well-planned mission could be over in a few minutes (as could a failed one). The emphasis was on repeating and adapting a plan till it was perfected, a training simulation for armchair CTU commanders.

The series continued with no fewer than nine subsequent releases and numerous expansions, all of which tugged *Rainbow Six* in slightly different directions (*Lockdown* was a bad cover-version of *Counterstrike*; *New Vegas* was *Call of Duty* in a closet). But following the underrated *Rainbow Six: New Vegas 2*, the series languished. Its successor, *Rainbow Six: Patriots*, was cancelled after a ruinous response to an early trailer. Now, seven years on, Ubisoft Montreal is hoping to revitalise the series, which has outlived not only its novel but also its author. The game has been in development since January 2013 (nine months prior to Clancy's death) developed exclusively at Ubisoft Montreal with a team of around 350. It's a sizeable project, then, and one that aims to maintain the close quarters combat that defines classic *Rainbow Six* albeit within a new context: a multiplayer-focused, five-versus-five, asymmetrical team game.

Two teams compete for the best of four matches. The Defenders hole up in a room to protect a hostage. The Attackers, meanwhile, must either free the hostage or eliminate every member of the defending team for the win. Operatives have just one life apiece, and will die with a single well-placed bullet (it's possible to stem the bleeding from a wound and drag your body across the floor to somewhere a willing teammate can revive you, but it's rare to survive even the most glancing hit). Before each skirmish there's a brief set-up and planning phase. During this time, which lasts for around 30 seconds, each member of the attacking team (who start the game in one of a number of different spots outside the terrorist's indoor location) is able to drive a remote controlled car with a mounted camera on its bonnet around the stage. They must frantically search for the location of the hostage, knowledge that, if gained, will provide a significant advantage in the ensuing live match.



#### TACTICAL VOTING

Before each match team members are able to vote on their starting location. This is, generally speaking, more meaningful for the defenders, who are able to choose the room in which they'll hole up. But a strong approach will also help the attackers, who can be shot en route to the house or even through a window.

The hostage-takers (whose position on the map changes with each new round) use the time instead to fortify their position, setting up barriers, barricading doors and even buttressing walls to prevent the opposing team from blasting peepholes through them. They might choose to barricade a different doorway to the one that leads to the hostage as a red herring for the searching cars (it's even possible for a hapless player to cordon himself inside the wrong room entirely, forcing a break-out).

If at any time the defenders spot one of the opposing team's RC cars pootling about during this set-up phase, it can be shot and destroyed. Hunting out the cars is a worthwhile task as, if the attackers can position their car under a bed or table, they can use it as a live camera feed once the match begins. The fewer the number of RC cars in the field, the less information the attackers can access. This planning phase is a smart addition that adds a different rhythm and texture to the action, one

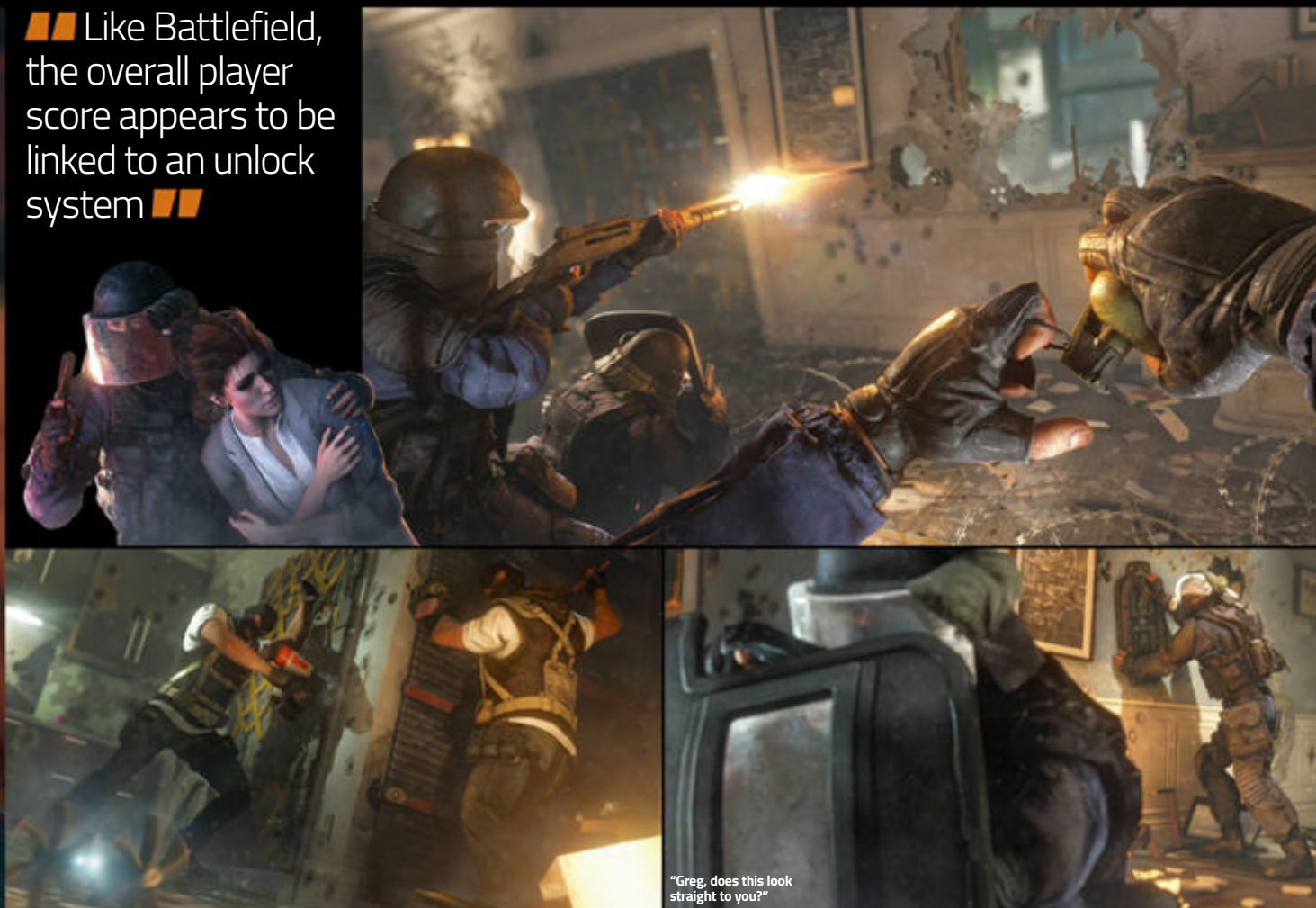
that illustrates the team's concerted effort to extract the essence of *Rainbow Six*.

"The first thing that the team did was to look at previous *Rainbow Six* games and distill their gameplay down to its core," explains Andrew J. Witts, a game designer on the project at Ubisoft Montreal. "What we found was that every single game in the series could be described as a confrontation in which the team, *Rainbow*, assault a stronghold and takedown the enemies within. We built on this premise but added two key new elements. We wanted to make the enemies fully aware that the assault was coming and give them the tools to prepare. And we expanded the destruction capacities of the *Rainbow* team – allowing them to, for example, breach through walls."

Indeed, the game's engine has been adapted with destructible environments in mind; it employs Ubisoft Montreal's so-called 'Realblast destruction' technology. This allows walls, ceilings, and barricades to crumple and crumble



Like Battlefield, the overall player score appears to be linked to an unlock system



with unprecedented authenticity. Fire a few rounds into a dividing wall, for example, and you'll rip a hole through the other side, exposing the studs and sheathing. Thwack a wooden barricade with a sledgehammer and the planks will splinter and crack in natural ways. Plant an explosive charge on the weatherworn bricks of an external wall, while you dangle perilously from a grappling hook, and the ensuing debris will clutter to the ground for a full twenty seconds after the charge is detonated.

Different weapons apply different effects on the environment, depending on their proximity to the material they're aimed towards. Likewise, a shot fired from a distance will produce a smaller hole than one fired at close-range. Aim your gun at the floor and, rather than blasting a generic hole in a graphical texture, you'll be targeting an individual floorboard, allowing you to create precise lines of sight between spaces. The technology defines the gameplay: the attackers are involved in

the destruction business; the defenders in that of fortification. Likewise, the player's relationship to the architecture has also changed thanks to the technology on which it stands. No longer are you confined to breaching doors and windows in search of a route to your target. Now every surface has the potential to offer a tactical opening, providing, of course, that you have the correct tool for the job.

"The procedural destruction and the gameplay surrounding it would not have been possible on the last-gen consoles," says Witts. "Essentially, without this new generation of hardware, the core of the Siege experience would not have existed at all." Moreover, the destructible environments evens the balance between the attackers and the defenders who, in other asynchronous games, are often able to take up entrenched positions that provide a significant advantage. In Siege's case, the game often feels more challenging as a defender; you're always worried

that the enemy could potentially burst through any wall, floor or ceiling.

The way in which the destructible environments affect the rhythms of play depends on how players use the architecture to their advantage throughout the round. "If a team wants to pack a lot of breaching power and go in crashing down walls in order to get to the objective fast, then the rhythm of the game will spike," says Witts. "The pacing depends on what each team's actions are, which has been pretty interesting for us to see during the recent closed Alpha." These fluctuations in pacing, driven by player choices, take the game away from traditional Rainbow Six in some key ways. For one thing, it's a far more claustrophobic game than any of its predecessors.

But despite the apparent differences and, some might say, missteps in the Rainbow Six lineage, Witts is adamant that there is a core design philosophy running through the series that provides a unifying backbone. "Rainbow Six games consistently give

#### TEAM AMERICA

The realism is apparent in the different CTU load-outs. SAS Operators have a gas mask that allows them to take less damage from smoke and prevents them from coughing, for example. FBI SWAT Operators deal increased explosives damage thanks to their explosives training while GIGN Operators are able to revive teammates more quickly.





players an experience that incorporates what we have internally called the 'three T's': Tactics, Teamplay and Tension." Siege will, Witts claims, not only continue the tradition, but develop it yet further. "The team has been trying to bring these elements into nearly every facet of Siege, from the structure of the game modes to the lethality of the weapons. In the case of team play, we've evolved this core tenant in Siege with the operator system. Each operator complements another in interesting ways, and this allows players to assemble and work as a team within a round."

Indeed, spend any serious amount of time with the game and it becomes obvious that Ubisoft Montreal has designs on the world of eSports with the game. Each team can currently choose one of five operators (the final game will have twenty, drawn from five different counter terrorist units from around the world) each of whom has different special abilities, weapons, strengths and weaknesses. The emphasis is on customisation, both at an individual and collective level. Load-outs can be tweaked and altered so that you might take frag grenades and a riot shield, or a breach charge and smoke grenades as your gadgets.

#### LAST GAME STANDING

Ubisoft Montreal believes the longevity of the game will come from its freedom for strategizing. "Teams that enter into a map and execute their various strategies will bring replay-ability for players," says Witts, who is unwilling to discuss post-launch plans. "As far as anything post-launch is concerned, we can't comment on anything right now," he said. "We're focused on our immediate goals and deadlines."

But the composition of the team itself is just as important, and how that squares (or fails to square) with the opposing team's choices. For example, 'Mute' and 'Castle' make for an exquisite marriage. Mute's jammer will prevent all breach charges in a certain radius from going off. This means he can place a jammer next to one of Castle's reinforced barricades (which shut down choke points and provide an extra layer of protection for the Defenders), preventing the enemy team from blowing it up. Instead, they'll have to go around the defensive layer.

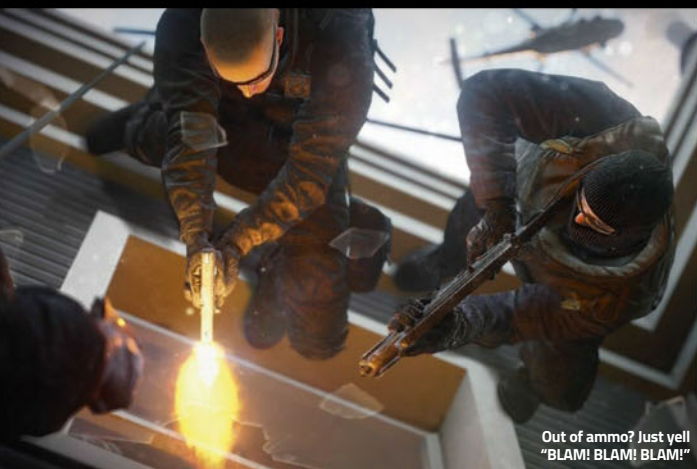
'Sledge' pairs well with 'Thermite'.

The thermite breaches make a considerable amount of noise when they detonate, drawing the enemy's attention. But time it right and it's possible to use Sledge's sledgehammer at exact moment of detonation, covering Thermite's noise and disorientating the opposing team. Another operative is able to see foes through certain walls, an extremely useful ability for a team using voice communications (but not if the other team has 'Thatcher' on its side, whose EMP grenade will disable all electronics in its blast radius). A well-balanced squad is crucial to success; a gap in



"Helmets, for the chumps,  
Sunglasses, for the pros."  
-RIP Ash





Out of ammo? Just yell  
"BLAM! BLAM! BLAM!"



the set-up can be cruelly exposed and exploited by the opposition.

While, in this way, the game is structured like a team sport, with planning phases, quick bursts of activity, and post-game stats analysis, it employs a counter-terrorism, close quarters combat metaphor that has a degree of authenticity. Ubisoft Montreal worked with members of the GIGN French Counter-Terrorist Unit early in the conception phase of the project (they feature in the game as one of five international CTUs, alongside the Spetsnaz, the SAS, the GSG 9 and FBI SWAT) to help ensure, wherever possible, on-screen tools and tactics are authentic. This work was, according to Witts, of primary use to the art team, who used footage define how the in-game characters would move, lean, and hold a weapon. "In Siege, we're trying to strike that balance between realism without compromising too much fun that comes with being a game," he says.

Alongside the multiplayer core, Ubisoft Montreal has promised something of a single player offering. Details are currently scarce, but it seems likely that it will take a similar approach to Titanfall, another team-based shooter, which offered a short introduction to the sport-like game. Regardless of its final form, it seems clear that expectations are placed on players to create their own story rather than provide a pre-set cinematic journey for them to follow.

Ubisoft Montreal has promised something of a single player offering...

"Rainbow Six: Siege is about the player's story first and foremost," says Witts. "We want the experience to revolve around players and their teammates across the game. Whether that be the story of a match of Hostage Rescue or a session of co-op – we want to generate a story about the player's experience within the Rainbow Six universe."

For well-organized teams who play often together, formulate strategies off the field and tactics on the fly, these stories are likely to be tremendously compelling. But the risk is that the less engaged player will be left behind, shunting Siege into niche territory, where only the most dedicated players compete. If the game proves well balanced enough for semi-professional and professional competitive play, there will be a significant incentive for players to find teams and take the game more seriously. But the game's suitability in an eSports context is yet

to be proven. For now, Witts is clear on the team's fundamental vision. "We want to make a game in which players keep on experimenting and doing surprising things after hundreds or thousands of hours. This is our dream and is what we are working so insanely hard for every day." **PC**





# Batman: Arkham Knight

Hands on with Rocksteady's last jaunt with the Caped Crusader.

DEVELOPER ROCKSTEADY  
PUBLISHER WARNER  
DUE NOW  
[www.batmanarkhamknight.com](http://www.batmanarkhamknight.com)

The action ramps up ever higher in the last installment of Rocksteady's Batman franchise.

There is a point in the 45 minute Arkham Knight session I enjoyed early in the week where I had no damn idea what I was doing. I'd summoned my trusty Batmobile, and a car-flashed past, something about The Riddler popped up, and so I decided to chase it.

The Batmobile moves fast, and if - like me - you're not too familiar with the PS4 controller, it's actually really easy to accidentally convert the vehicle into tank mode. So I'm speeding along, every now and then deploying a big gun and turning into a quad-wheeled tank, before speeding off again. There are other cars on the street, but they're all driven by various gangmembers and thugs.

The Batmobile just blows right through them.

I catch up to the vehicle I'm chasing, crash into it a few times, and I think it blows up - I have no idea, but suddenly I get XP. By this time there is a giant, roaming mob of gangers around me, so I get out, and lay down some righteous smack. Bodies fly, bones are crunched, and before long the street is empty.

Arkham Knight is Rocksteady's final act in its

Batman series, and the company is - obviously - pulling out all the stops, including game elements that they could simply never tackle in previous iterations.

Even though the Bat now has his shiny new car, grappling and gliding around the city is often the quicker way to get around, and it's a real pleasure.

The reactive fighting system that Rocksteady pioneered has always been super fluid, but some new wrinkles add interest for veteran players. New badguy types can charge you now, and you can foresee this by a red icon over their heads, so you can dodge away or counter-attack.

But the Batmobile really is the star of the show, and it delivers some great gameplay. In one of our missions the Riddler challenges us to a demented time trial through the city's sewers, and you have to open and close doors, activate ramps and landing areas, and drive around the ceilings and walls of cylindrical tunnels. It's hectic, but never not fun.

The game can be amazingly overwhelming. From mission choice to the car chases, it's easy to lose track of targets, and not even notice when you've completed something. Preview

He looks like he wants to be my friend!

sessions are always a little rough, because they do dump you into the middle of the game, but the level of chaos in the city could easily overwhelm some players.

Thankfully, Rocksteady's put a lot of work into the early game, so that it steadily (I'm not proud) introduces game systems, both old and new. "We didn't want to make a game that would scare away new players," Dax admitted, "and even veterans may need to brush up on the fighting mechanics."

Arkham Knight is without a doubt a fitting send-off. **DAVID HOLLINGWORTH PC**



# Hordes of relatives coming over this Winter...

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# Warhammer 40k: Regicide

In the gridded future there is only war!

DEVELOPER HAMMERFALL PUBLISHING  
PUBLISHER HAMMERFALL PUBLISHING  
DUE Q2 2015  
[www.warhammer40kregicide.com](http://www.warhammer40kregicide.com)

When you've played chess on and off for years, the format of Warhammer 40K: Regicide can take a little getting used to. On the surface the game resembles the classic 1988 PC game, Battle Chess, and indeed the game does include a straight up chess mode, but the real meat of the game comes from the melding of chess and turn-based strategy that forms the core of the promised campaign. The current early access build doesn't give players access to all of the variations of the Ork and Space Marine factions, but it does allow players to come to grips with the initially confusing but potentially wonderful hybrid combat.

When it comes to unit movement, Regicide is just like chess. Rooks move in straight lines, Bishops on the diagonal, Knights hop around in their usual manner and Pawns plod forward. What is different is that each round, players have access to a pool of initiative that allows them to utilise unit abilities from any of their pieces remaining on the board. These abilities

range from simple unit abilities such as taking a quick shot at any enemy in range, to faction abilities that unlock over a number of turns to unique special abilities such as the Weirdboy (Queen) of the Orks being able to instantly kill an enemy unit under half health, or the Warboss (King) being able to summon up an AoE missile barrage with a long cooldown. The small pool of initiative points limits how many skills can be used per turn and is further impacted by the chosen faction. The Space Marines are better at ranged combat than Orks, so can get more use from snap shots and other ranged attacks, whereas the Orks are masters of melee combat and as such much more effective at close range.

Each of the pieces has health, shielding and firepower commensurate to their importance on the board, making most pieces far more deadly than Pawns, but in keeping with the chess theme, taking a piece results in an instant kill, so in essence any piece can instantly kill and most likely


## RED MIST

Killing an enemy piece using skills usually results in little more than that piece groaning and laying down, but taking a piece chess style results in some spectacularly gory kills, an office favourite being the Warboss hacking enemies apart with his massive chain-axe, resulting in clouds of gibs, a fine red mist and some satisfyingly squishy sounds.

render into gibs any other piece.

Seeing a weak pawn take down a Rook or Queen is a real thrill, as is setting up a checkmate rather than having to slowly whittle down the opposing King's health. Focussing on chess and turn based strategy was more than a little confusing at first but after a couple of matches nearly everything comes together. And it looks great too, with a range of brutal animations and environment effects.

At this stage of development there seem to be some issues with rounding numbers that makes the percentages for hits and misses seem way off, as well as a few awkward control issues but the game is definitely coming on strong. The opponent AI is also a little suspect, but playing with friends should counter this problem.

If you're a fan of turn based strategy, chess or both, it's definitely worth a look. The fact that a small Australian development team is making a Warhammer 40k game is also some cause for both support and fanfare. **DANIEL WILKS** 



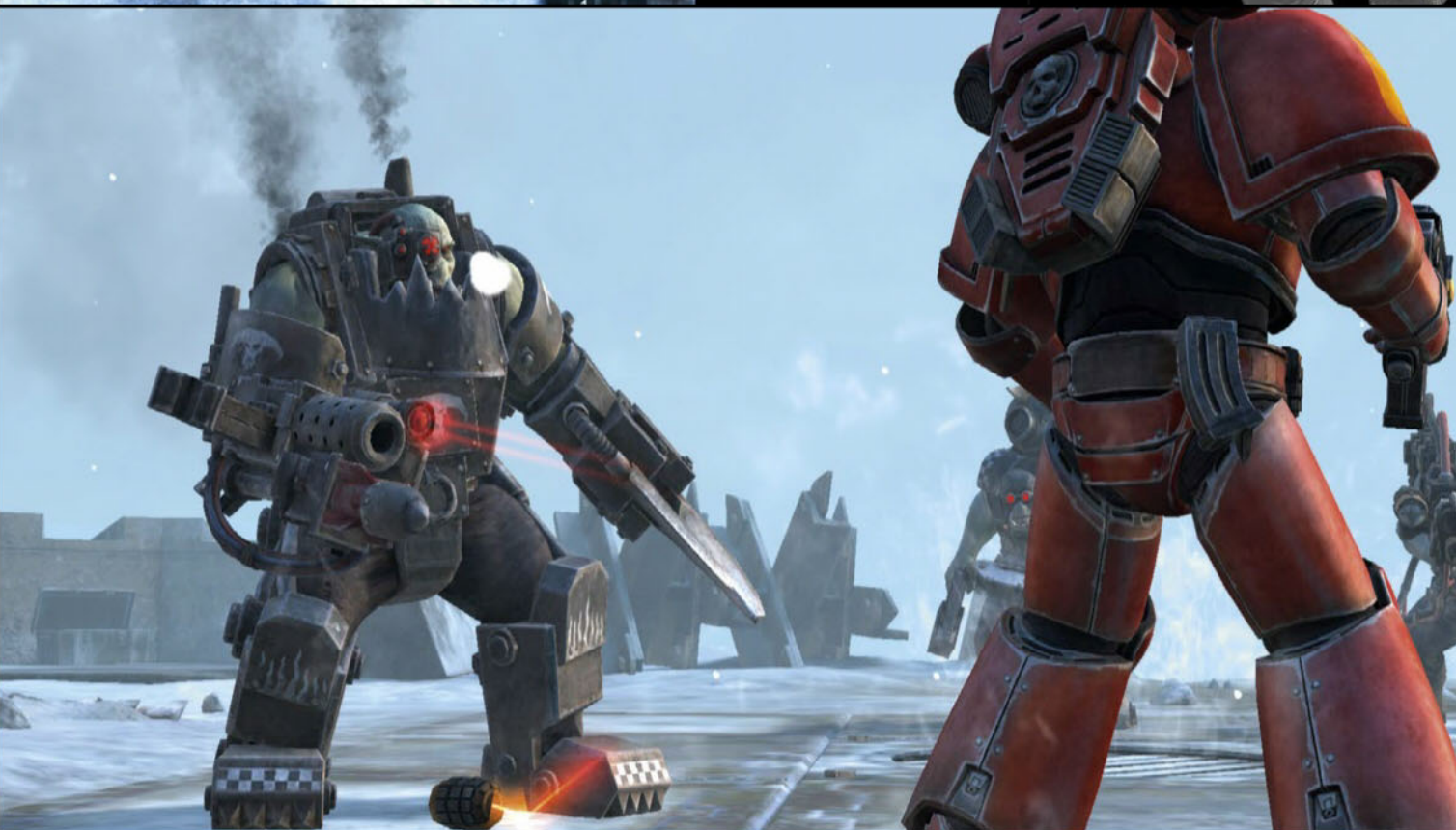


Take that  
you fiend!



You sunk my  
battleship?

It looks great too, with a range of brutal animations and environmental effects.





# Ashes of the Singularity

A Singular Vision

DEVELOPER OXIDE GAMES  
PUBLISHER STARDOCK ENTERTAINMENT  
DUE TBA  
[www.ashesofthesingularity.com](http://www.ashesofthesingularity.com)

When I enter Stardock's booth at this year's GDC, I'm serenaded by a chorus of non-stop pew-pews. A massive screen before me is teeming with spaceships, thousands of them, nestled between great mountain ranges and green valleys, all firing off missiles and lasers and streams of gunfire. Stardock CEO Brad Wardell himself greets me, informing me that what I'm looking at is only the smallest map that Oxide Games' upcoming RTS *Ashes of the Singularity* has to offer. The size of this map is comparable to that of the San Francisco Bay Area; bigger map sizes will apparently rival the size of mainland Australia.

"The name 'Ashes of the Singularity' refers to the technological singularity," Wardell explains as we sit down to explore this sprawling map together. Set in the future, *Ashes* follows "post-humans" of

the future, whose bodies have evolved beyond their original meatbag forms to enable a technologically integrated "uploaded consciousness" that enables simultaneous control of the countless spaceships before me, happily emitting laser beams. They're battling the Substrate, an AI race invented by humans before their evolution. Once friendly, conflict began to simmer as the two groups started spreading across the galaxy, and they now frequently fight each other for control of entire planets.

## THE HEART OF THE SINGULARITY

Given the hefty subject matter, it makes sense that such a story would rely on heavy tech, no? *Ashes* runs on the Nitrous engine, the fruit of Oxide Games – a company that Wardell and a handful of other veteran game developers founded in 2013 to develop next-generation 3D

gaming engines. With the reveal of *Ashes of the Singularity*, it seems that that next generation is ready to step into the present.

"On this map, there's 5,500 units, and they're all going at the same time," Wardell says. "They each have multiple weapons and turrets, but when they're firing at stuff, it isn't scripted – each unit is targeting individually." Effects like smoke, too, are not scripted. "In a normal game, when you see an 'explosion,' you're really seeing a bunch of .png images that an artist drew and animated. But here, everything is actually a light source. Every explosion that you see here is rendered individually, and you'll never see anything quite exactly like it again. In this scene right now, the explosions and lasers equal around 3,000 light sources." A scene in a typical current PC game, Wardell says, might only have four or five light sources.

What makes this possible is that Nitrous is a new engine, designed with multi-core CPUs in mind.

"If you think about every game that you've played in the last few years, they were made in engines that were made back when we were still running single-core CPUs," Wardell says. "It means that no matter how many cores you have or how powerful your CPU is, you're still only talking to your video card with one core."

"But in this engine, every single one of the cores is talking to the video card at the same time. That means that, with an eight-core machine, I'm getting 400, 500 per cent performance. At that level you start to be able to do some interesting things."

## EVOLUTION

Developers at Oxide and Stardock had been playing internal single-player and multiplayer games of *Ashes of the Singularity* for half





All those smoke contrails are procedurally generated.



"I can see my house from here!"

By carefully matching individual units together, players can create meta-units that essentially function together as one unit.



a year before its debut at GDC, testing to see how far they could push their machines with the sheer number of units onscreen at any given time. They soon discovered that the enormous fleets also necessitated changes to the usual RTS formula.

"This isn't StarCraft, where I have 40 units, right," Wardell says. "This is 20,000 units. There is no actions-per-minute that would let me manage them as well as a computer AI."

This is where the concept of meta-units kicks in: by carefully matching individual units together, players can create meta-units that essentially function together as one unit. The example shown to me consisted of a healing unit, an anti-aircraft unit, and a unit emitting EMP pulses, but as a meta-unit, they could all be selected and controlled simultaneously. "If you're crazy, you could control every single unit individually," Wardell says, "but you'd probably get your butt kicked."

And because Nitrous can support

so many units at once, Wardell adds, a player's units don't have to die very fast.

"That's one of my pet peeves in StarCraft, having to have 15 barracks for replenishing my armies constantly because they die in seconds. That's one of the things that a lot of strategy games currently have to do, because their tech can't support a lot of units in the game at once – so they have to die quickly. The strategy for them is 'How fast can you replenish your units?' But we don't have to worry about in Ashes. My units can die, but it's not going to happen in two seconds."

#### ALL-OUT WAR

All of Ashes' maps are procedurally generated, and players will be able to tinker further with the map editor ("In almost as little time as you can say 'generate a mountain over here, and a crevice over here,' you can have the map built and ready for you to play on," says Wardell). The team anticipates that Ashes will have strong modding potential as well.

#### MATCH OF A LIFETIME

"Because the maps can get so huge, the shortest game we can do is like, 30 minutes," says Brad Wardell. "The longest games? We don't actually know, because we've never been able to finish them. We suspect they can last weeks." If Ashes makes it into the eSports circuit, we foresee watching some very interesting matches.

In a world of endless free-to-play titles, Stardock has chosen a traditional method of distribution: the final product will be a paid purchase. Ashes is already available for pre-order via its Founder's Program, which nets early players a slight discount – but it's also offering what it calls a 'Lifetime Edition,' which gives players a subscription to every expansion and DLC release ever made for Ashes of the Singularity.

"You get these Steam sales, and some people generally feel a bit irked that they buy something and then six months after it's shipped it's half price," Wardell says he understands gamers' frustration with things like this, and he doesn't want to add to that. "With our Lifetime program, there's no sale in the world where you'll get everything we ever make for this game for \$99."

Ashes of the Singularity will enter Steam Early Access sometime during the Australian winter. As we part, Wardell reminds us of the sheer scope of this epic real time strategy project: "This isn't about RTS battles. This is an all-out RTS war." **PC**



# Space Rogue

The return of the dungeon master

DEVELOPER RED BEAT  
PUBLISHER RED BEAT  
DUE EARLY ACCESS  
[space-rogue.com](http://space-rogue.com)

It would be easy to dismiss Space Rogue as a clone of FTL. The two games have a lot in common. You zip from planet to planet in your ship, shuffling your crew around the various quarters to perform tasks, make repairs or control stations, combat enemy ships by targeting their various systems with your armaments and fight off boarding parties, but there are enough significant differences to allow both games to stand strong.

The early access code for Space Rogue shows that the game has a much more leisurely pace than the more frantic FTL. There's no flotilla chasing you, giving the player more time to explore the various planets in the system, mine planets for Tritanium, the multipurpose mineral used to upgrade the various systems of the ship, or tackle side quests for bonus XP and cash rewards. The narrative impetus for the voyage through dangerous space is nice and varied. Sometimes games will see you having to put down a robot insurrection, others will see you having to stop a rebel faction from tearing open a portal in space and releasing a powerful elder race. No matter the mission, players have to collect clues, follow leads and explore planets.

Even though there is no fleet of ships chasing you, the spectre of death is still everywhere. Heavy radiation can cause spontaneous fires on your ship, meteor showers can breach the hull, and more often than not a friendly looking "merchant" ship is in reality a pirate playing possum until they can attack. Targeting your weapons to disable enemy shields and weapon bays is key to winning a fight, as a great many enemy weapons, at least initially, are far more powerful than those of the player and can have devastating special effects, such as being able to always pierce the hull or do direct damage to any crew members in the targeted compartment.

All of the models in Space Rogue are 3D, and are really quite appealing. The player's cherry red ship looks something like a classic car crossed with a Jetsons spacecraft, and other ships seem to be drawn from sources ranging from 50s sci-fi through to arcade side scrolling shooters. Each of the crew models is detailed and charming, with lots of bumpy headed aliens and chunky robots that hate meatbags.

At this stage of development, Space Rogue is shaping up to be a fun, if somewhat



derivative take on the space rogue-like style all but perfected by FTL. The emphasis on exploration and narrative gives the game a nice point of differentiation from its better known ancestor and lends itself to a more leisurely style of play. Hopefully by the time of release the balance of generated worlds will be tweaked a little so that sectors will have a little more variation rather than being a death gauntlet of pirates and evil robots, but such tweaking is what early access is for. We'll find out when the finished game releases later in the year. **DANIEL WILKS PC**





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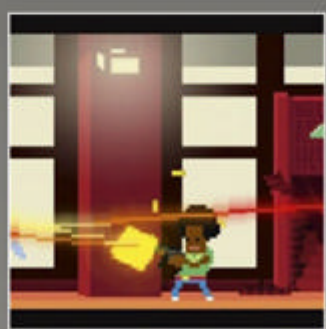
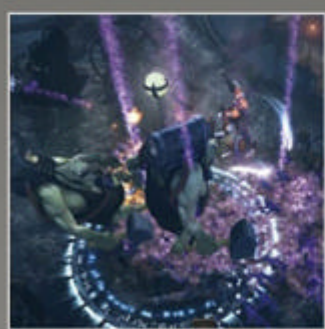
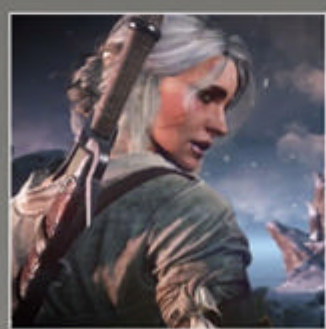
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# Games

## YOUR GUIDE TO PC GAMES



Games do not get much bigger than The Witcher 3, and we've powered through a lot of it to get you our review. In fact, nearly everyone in the office has been playing it. It's big, wide, and full of stuff to do, from card games (which has addicted more than one of our colleagues, so we're staying right away from that!) to monster-hunting, crafting, and just standing around and wondering why it's always so damned windy.

But, being so big, and with many of its quests taking quite a lot of time to complete, it's not an easy game to just sit down and play for a bit - it requires a couple of hours at least in a sitting just to feel as though you've done more than ride around the landscape (assuming your horse isn't stuck behind a tree).

This is why we feel it's important to have a balanced gaming diet, and the perfect antidote to the grim intensity of Geralt could well be Not a Hero, which we review this issue. In fact, it could be the very opposite of The Witcher 3 - it's funny, sharp, and can be played in 60 second chunks.

But it may well be just as violent.

**David Hollingworth**  
Digital Editor

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**SCORING SYSTEM** | PCPP scores its games on a 1 to 10 scale. The higher, the better – though 10 is by no means a “perfect” game. We’re not convinced such a thing exists, so consider a 10 a masterpiece of PC gaming, despite its inevitable flaws. A 5 is a decidedly average game; one that doesn’t excel in any particular area, without being an affront to our senses – the ultimate in mediocrity. Below this, you’ll start to find the games our reviewers suffered an aneurysm getting through; above it, the titles truly worth your time and money. And remember: a score is only a vague indication of quality. Always read the full review for the definitive opinion!

WE  
PLAY  
ON:





# The Witcher 3: Wild Hunt

Monsters are dangerous but love is deadly

DEVELOPER CD PROJEKT RED  
PUBLISHER CD PROJEKT RED  
PRICE \$59.99 USD  
AVAILABLE AT STEAM, GOG.COM, RETAIL  
[www.thewitcher.com](http://www.thewitcher.com)

After the thrilling start of *The Witcher 2: Assassins of Kings*, the pared back beginning to *The Witcher 3* may come as a bit of a shock to gamers. Rather than immediately being pitched headfirst into a tale of betrayal and intrigue, the player is instead introduced to Geralt's life: first training his ward, Ciri at Kaer Morhen, the Witcher base and stronghold, then searching the countryside for his long lost love, Yennifer, the sorceress who smells of lilac and gooseberries. This slower, more mannered introduction to the game is fitting with the overall themes of the third and final game in the *Witcher* saga, with Geralt turning his back on his misguided involvement with politics and world changing events and instead concentrating on those things he is best at or most invested in, namely hunting monsters and seeing to the welfare of his loves both familial and romantic.

While still the man of action, the Geralt of *The Witcher 3* is a more circumspect and weary character. The events of the previous games, *The Witcher 2* in particular, have

changed the world in ways he didn't conceive and have left many of those he cares about in danger. The Church of the Holy Flame hold sway in many cities and burns its enemies at the stake. Witch Hunters track down sorceresses to torture and kill with the full support of their Kings and much of the populace. Geralt's friend and sometime love interest, Triss Merigold has gone from being a royal advisor to a fugitive. Non-humans are even more put upon than before. The war against Nilfgaard is all but lost. Things are darker than they've ever been, and to make matters worse the terrifying supernatural presence of the Wild Hunt streak across the landscape killing at will and hunting the now adult Ciri.

Mechanically the world of *The Witcher 3* is also vastly different from the previous games. Instead of the linear narrative approach the first two games took, *Wild Hunt* instead takes place in a truly massive open world Geralt is free to explore at his leisure. There is no level gating in the world, enabling the hero

to travel anywhere at any time, but that is a path fraught with danger. The world doesn't care about Geralt's level, and exploring is just as likely to place the character in mortal danger from an adversary immeasurably more powerful than he can stand against as it is to reward Geralt with treasure or adventure. It's a beautiful world, full of new characters to meet or be spat on by – not too many people particularly like Witchers, even if you've gone to the effort of ridding their recently abandoned town of monsters so the human occupants can move back in – as well as interesting places to explore. Unlike many other RPGs, there isn't a massive variation in environments, with forests, swamps, towns and cities all feeling familiar, but rather than making the world seem dull it instead adds a sense of coherence and realism that makes things functional rather than a mélange of cool looking places with little linking them.

And yet, while it's all so wonderfully realised, it's also one of the few faults the game has. There seems to be a bit of an uneasy

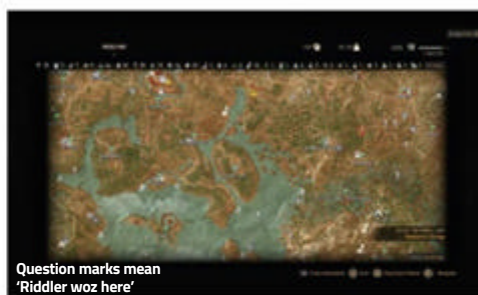




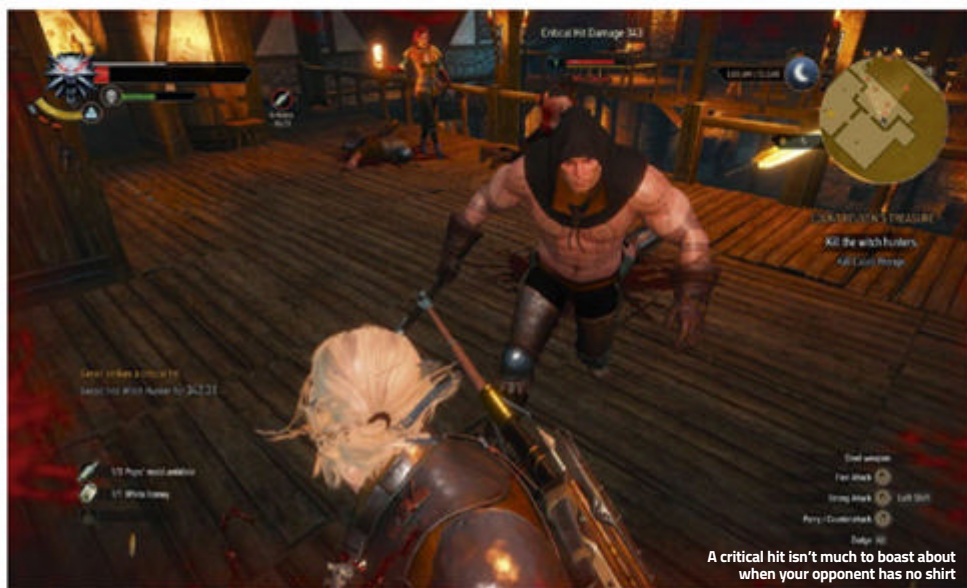
balance between the narrative drive of the previous games and the open world nature of the current title. The story quests drive the player onwards from town to town, city to city and nation to nation, whereas the rest of the map seems to offer a great deal in the way of exploration but doesn't quite deliver. Side quests abound in town and cities, sending Geralt all over to track killers, search for missing people, fetch and carry and the like but in addition, each area map is dotted with question marks denoting a place ripe for exploration. Unfortunately there isn't a great deal of variation when it comes to the latter – head to a question mark and complete one of a limited number of tasks such as blowing up a monster nest, finding a hidden treasure, killing a powerful guardian to nab its treasure, wiping out a bandit camp or clearing an abandoned town of monsters so the locals can move back in – making the initially enthralling exploration instead feel more like filler and busywork.

This sense of filler is only a mild roadblock in what is otherwise a superlative experience, the pace, structure and variations present in the main story and the side quests that branch from it is an absolute pleasure. Hunting for Ciri leads the Witcher across the world and embroils him in all kinds of adventures, from rescuing a mystic goat from an angry bear so a mad hermit can scry her location, to hunting down the perpetrators of a heist or searching for the estranged wife and daughter of an abusive drunk. There is a level of writing in the quests rarely seen in games. Although morality plays a major role in all of the Witcher games, there are no easy choices in quests, no simple choice between a good and bad option but rather choices presented without any real insight as to the outcomes. A poorly chosen word can start a fight and doing the right thing at the time can lead to disaster in the future or unforeseen and grim immediate outcomes.

For a game about a mutant monster hunter chasing his ward and killing



Question marks mean 'Riddler woz here'



A critical hit isn't much to boast about when your opponent has no shirt

## There is an unexpected degree of subtlety in the storytelling

### WHY SHOULD I CARE?

- + You want one more trip into Temeria
- + You really don't like Nilfgaard
- + You've just recovered your full memory
- + It's The Witcher

lots of monsters and bandits in the process, there is an unexpected degree of subtlety in the storytelling. The aforementioned abusive drunk could easily be portrayed as a simple monster but he's anything but. He's a soldier obviously suffering from PTSD, seeking solace in the bottle but resorting to violence at any problem. This doesn't make him a sympathetic figure though. He's a horrible man, but a very fallible and human one. With very few exceptions there are no simple characters. Fully voiced NPCs in quests all have multiple facets to their personalities, no matter how throw away their quest lines may seem. For example, during a mission to track down and talk to a number of his bard

friend, Dandelion's, paramours, Geralt meets a Nilfgaardian noblewoman interested in fencing. Rather than being little more than a plot device, the noblewoman instead has a contentious relationship with her mischievous sister, having become involved with fencing because she hated being trotted out at social and political events. She is, however, still a proud Nilfgaardian and rankles at suggestions that her people's war and ways may not be just. The character could simply be one of Geralt's bedroom conquests – and she can be bedded – but ends up as so much more. She's not simple titillation or a card to collect but rather a fleshed out character.

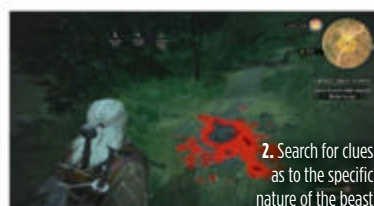
This level of care can also be seen

### SEQUENCE

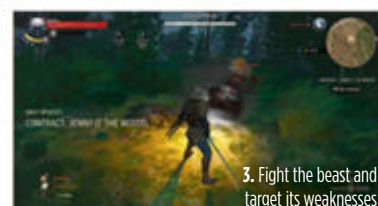
#### Monster Squad



1. Negotiate the monster hunting contract

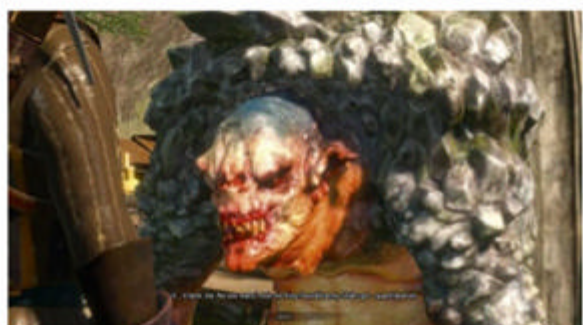


2. Search for clues as to the specific nature of the beast



3. Fight the beast and target its weaknesses





## WITCH LIFE

**1.** Current health (red), Stamina (yellow), Toxicity (green), XP to next level (white) and Adrenalin (red pips).

**2.** Any current potions, skill effects or other boosts.

**3.** Swallow regenerates health and Thunderbolt increases Geralt's combat strength for a short while.

**4.** Each one of those red dots is another body to loot.

**5.** With different dialogue choices this quest could have culminated in a less bloody fashion.

**6.** Witcher Senses highlight points of interest in the environment and can also highlight evidence.

in the monster hunts. Each contract progresses in a similar fashion, with Geralt first talking to witnesses, then investigating sightings, picking up clues to the nature of the beast with his heightened Witcher senses, then finally confronting the monster. Combat is accessible but robust, with light and heavy attacks, dodges, rolls, parries and counters flowing together seamlessly to make for some spectacular battles. At the lower difficulties it's possible to simply mash your way through most fights, throwing in the occasional dive roll to get out of the way of attackers, but at normal difficulty and higher, the whole range of abilities must be used if you want to survive. Timing a parry against

an enemy with a shield opens them up to a quick riposte and saves on the wear and tear your sword would take from being beaten against the shield time and time again.

Level progression is significantly different from previous games, with each branch of skills – combat, signs, alchemy and “general” having their own skill trees to invest points in. These skills are then slotted into a grid that slowly unlocks new slots as Geralt levels. In a neat new twist, each of these skills can be matched with a similarly coloured mutagen – a new alchemical drop from monsters – creating a significant buff if used correctly. Add in robust alchemical and crafting systems that enable Geralt to create his own equipment and

upgrades and you have ample scope for character customization.

Control of Geralt occasionally feels inaccurate, the horse pathing is sometimes woefully off track and after a while the open world seems hollower than it should, but these problems pale in comparison to the amazing achievement that is The Witcher 3. It's a fantastic, unbelievably immersive game that promises and delivers dozens of hours of RPG pleasure. Knowing the pace at which CDPR patches problems, we wouldn't be the least bit surprised if these niggling troubles were fixed by the time you read this. We also have the inevitable Enhanced Edition to look forward to. **DANIEL WILKS**

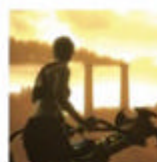
## OR TRY THIS:



**THE WITCHER 2: ASSASSINS OF KINGS**  
CD PROJEKT RED  
2011  
▲ Geralt Vs Politics  
▼ Patchy final act



**PILLARS OF ETERNITY**  
OBSIDIAN ENTERTAINMENT  
2015  
▲ Beautifully old fashioned  
▼ No sexy times



**FALLOUT 3**  
BETHESDA SOFTWORKS  
2008  
▲ Fully realized open world  
▼ Two dimensional characters

## VERDICT:

Not without a few issues, The Witcher 3 is still a towering achievement for CDPR and is one of the best RPGs in years.

# 10



# Wolfenstein: The Old Blood

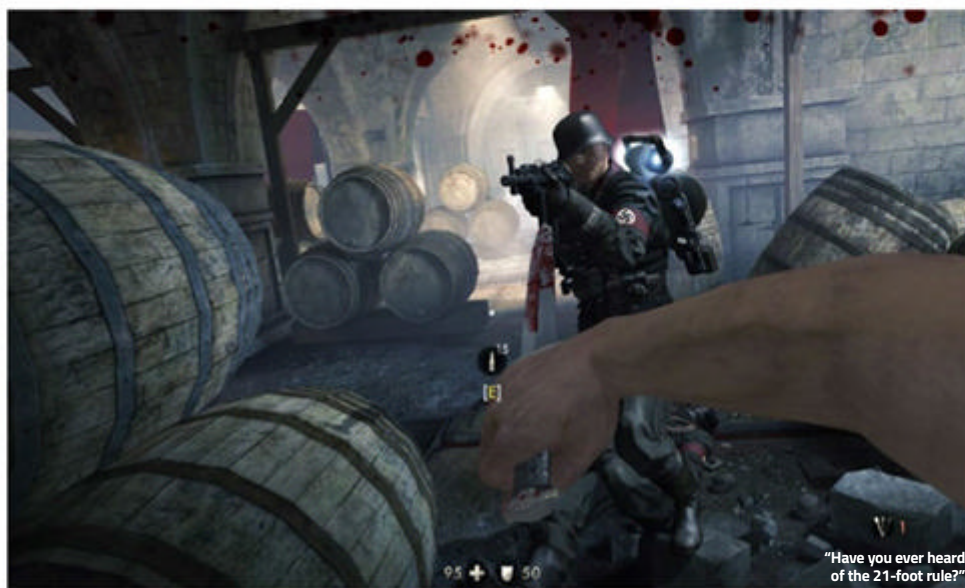
Old Blood, Old-School

DEVELOPER MACHINEGAMES  
PUBLISHER BETHESDA SOFTWORKS  
PRICE \$34.95 USD  
AVAILABLE AT STEAM, RETAIL  
[www.wolfenstein.com](http://www.wolfenstein.com)

The standalone expansion is slowly becoming the go to means of extending a franchise without committing finances to a full blown sequel. It's a welcome move for the most part – naturally there are some standalone expansions that aren't much more than simple cash grabs based on a popular modern property (we're looking at you Forza Horizon 2 Presents Fast & Furious), but there are also wonderful releases like the ape crazy bonkers 80s action spectacular, Far Cry 3: Blood Dragon, and this old-school standalone prequel to last year's sleeper FPS hit Wolfenstein: The New Order.

Set immediately prior to the prologue of The New Order, Wolfenstein: The Old Blood once again places players in the shoes of William "B.J." Blazkowicz, agent of the O.S.A. (the Office of Secret Actions, not Obstructive Sleep Apnea, as Google would have you believe). It's 1946 and the hardened Nazi killer and future savior of mankind must infiltrate the eponymous Castle Wolfenstein along with Agent One in order to discover the whereabouts of General Wilhelm "Deathshead" Strasse, information under the protection of Nazi archaeologist, Helga von Schabbs and her hulking, brutal left hand/dog trainer Rudi Jager, the kind of cackling evil villain that is happy to feed both prisoners and underperforming underlings to his hounds. Naturally everything goes pear shaped, and the supposedly covert operation involving fake papers and stolen uniforms turns very shooty.

Mechanically, The Old Blood doesn't stray too far from The New Order, with dual wielding, armour and health packs and stealth sections all making a



■ If there's any villain more guilt free to blow apart than zombie Nazis we haven't found one ■

## WHY SHOULD I CARE?

+ You've always wanted to meet someone named B.J. (Thanks Mulder)

+ You like your shooting sprees to be guilt free

+ You want to see the best Grammar Nazi joke in games

+ When you dream, you dream of Wolfenstein 3D

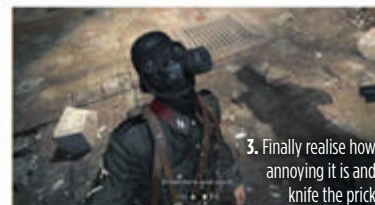
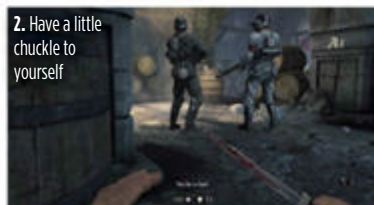
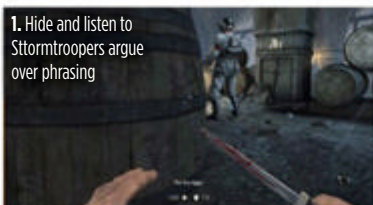
welcome comeback. What has changed is the format. Rather than the larger, more open areas of The New Order, The Old Blood is more closely related to old fashioned corridor shooters, with most of the areas streamlined to propel Blazkowicz forward to the next encounter. It makes for a nice change of pace from the main game, but unfortunately it does lead to a rather fatiguing pace throughout, with none of the welcome moments of quiet, character development or introspection that made The New Order one of the great FPS games in recent years.

Narratively, The Old Blood starts much like The New Order but later takes a turn for the worse when zombies are introduced. It's a bit of a jarring tonal

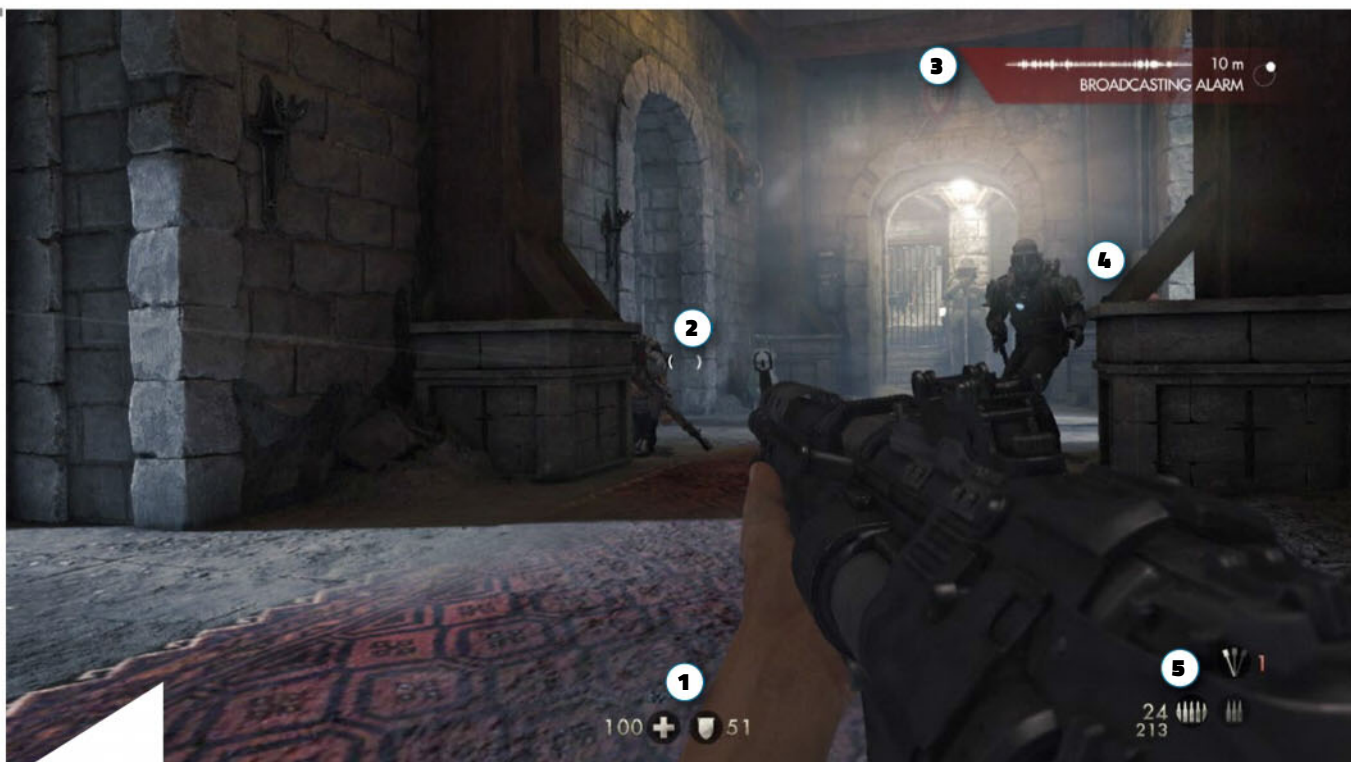
shift that doesn't quite sit right. This problem isn't so much the addition of the zombies – if there's any villain more guilt free to blow apart than zombie Nazis we haven't found one – but more the implementation. Rather than being shambling terrors that inject some fear into the game, they are little more than shambling bullet sponges no more interesting to shoot than average Nazi grunts. The only difference is they require far more bullets to take down. This jump to zombie horror hints at B-movie camp but the game never really gets across the line, as though the writers were never sure of what the tone of the game should be – campy or serious – and instead tried to walk between both; unsuccessfully at that.

## SEQUENCE

### Grammar Nazis







## THE OLD-SCHOOL

1. B.J.'s health regenerates to a certain point, but only health and armour packs truly protect him.

2. Enemies do their best to use cover, but they're not great at it.

3. Commanders broadcast alarms that summon enemies. The only way to stop the alarm is kill the commander.

4. The AI seems to delight in charging into fire.

5. Although well stocked with ammo in this screenshot, switching weapons is vital to conserve ammunition.



After the initial plan goes snafu, B.J. finds himself in possession of what turns out to be the most useful item in the entire game, a length of pipe. This pipe can be split into two segments for stealth kills or to use as climbing spiked to scale specified walls, or joined into a single length to use as a club, a pry bar for levering open doors or levering the power cables from heavy armoured sentries, or even a prop to hold open doors. It's a universally useful macguffin and plays a major role throughout the game. Not since Mario has a videogame character shown such an affinity towards plumbing. Other weapons available to Blazkowicz include the usual staples – a meaty and satisfying shotgun, an assault rifle, sniper rifle,

pistol, grenades and the like, each with limited ammunition making the choice between stealth melee takedowns using either the pipe or knife, and shooting it out with the baddies a tenuous one.

Although some sections demand a guns blazing approach, the choice of stealth or gunplay still features strongly in The Old Blood. With some enemies, such as the massive armoured sentries, can only be taken down or circumnavigated via stealth: first finding a switch to turn off the powered rails they are tethered to like some kind of walking Third Reich bumper car, then sneaking up behind the temporarily disabled villains and levering out their power cord to permanently take them off line. These deliberate stealth

sections sometimes come across as a little forced but they maintain a nice level of tension throughout. The shooting feels old-school and weighty, and although there are some modern mechanics, such as the ability to lean out around cover to take shots, it still feels more akin to the Wolfensteins of yore than modern shooters.

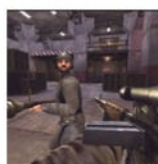
Wolfenstein: The Old Blood is not without pacing and design problems, but even still it's a remarkably fun and satisfying game. It's a short, five or so hour burst of action and excitement with production values that rival some far more expensive AAA titles. For half the price of a full title, The Old Blood still delivers a lot of game. **DANIEL WILKS**

## OR TRY THIS:



**ZOMBIE ARMY TRILOGY**  
REBELLION OXFORD  
2015

▲ X-Ray zombie kills  
▼ Stealth is a chore



**RETURN TO CASTLE WOLFENSTEIN**  
GREY MATTER  
INTERACTIVE  
2001

▲ Amazing multiplayer  
▼ Patchy campaign



**WOLFENSTEIN**  
RAVEN SOFTWARE  
2009

▲ Nazis go supernatural  
▼ Fun but forgettable

## VERDICT:

Not as nuanced as The New Order, Wolfenstein: The Old Blood is still a great FPS

**8**



# Magnetic: Cage Closed

This FPS Puzzle Platformer pushes all the wrong buttons

DEVELOPER GURU GAMES  
PUBLISHER STEAM  
PRICE \$14.99 USD  
AVAILABLE AT STEAM  
[gurugames.se/games/magnetic](http://gurugames.se/games/magnetic)

**M**agnetic: Cage Closed, begins auspiciously inside a prison cell, where the player's first choice is to proceed, or die. From there, the nameless character is taken via shuttle to a gaol-cum-weapons testing facility. Two voices accompany you through the game; the prison's Warden, and its resident head-doctor. Why? Because you're a criminal, for some reason, testing weapons to use in a nuclear war of some kind.

The plot makes a few nods to experiments by Pavlov and Skinner, mocking the pointlessness of it all, even asking "would you kindly put down the magnet gun?". While it lampshades the conceits natural to videogames, merely highlighting these necessary contrivances doesn't make its useless story any more effective; it only undermines the plot, and eradicates any reason to see what few branching choices there may be in the 'psychological evaluation' sections.

Gameplay relies on quick reflexes and sharp wits, as you navigate trap-laden rooms using the magnet gun to solve puzzles by pressing cubes against buttons on floors, walls, and ceilings. Not since Crystal Dynamics' *Soul Reaver* has the gaming world seen a title so enamoured with cube-puzzles.

Unlike a gravity gun, the magnet gun obeys Newton's third law: for every action, there is an equal and opposite reaction. Attracting and repelling objects works both ways, letting players navigate by pulling or pushing themselves to strategically placed magnetic tiles. While the gun has three power settings, from weakest to strongest, there is rarely reason to use anything but the most powerful.



Why? Because you're a criminal, for some reason, testing weapons to use in a nuclear war of some kind

## WHY SHOULD I CARE?

+ The magnet gun offers a new take on puzzle-based gameplay.

+ It can be very difficult at times, making it a worthwhile addition to anyone who likes their games with some bite.

The gun fires boxes in off-centred arcs, which only adds to the tedium when you find yourself constantly missing the target.

Death comes for us all, and in *Magnetic*, it comes quick and easy: spike traps, wall-mounted flamethrowers, floors covered in chlorine gas, you name it. While these sorts of traps are common to platformers, poor hit detection means you'll often be stabbed or burnt to death when the offending booby-trap is inches from your screen.

The gameplay is a textbook example of why FPSers generally make for horrible platformers; there's no edge gravity, no sense of placement, no ability to grab ledges. Guru Games could have learned a lesson or two

from *Mirror's Edge*. Instead, we have a game that's neither a good platformer, nor a good FPS. What's worse, scarce checkpoints mean every death quickly builds into an ever mounting sense of frustration and rage.

*Magnetic* has a few interesting concepts that fail to live up to their potential. The constant loading corridors and crawlspaces may be a part of the game's button-pushing Pavlovian mindscape, but it fails to soar past the mark, feeling more like a compilation of ideas used out of context; to paraphrase what Roger Ebert said of *Battlefield Earth*, the developers learned from better games that these conventions can be used, but they haven't learned how or why. **ALESSANDRO GUARRERA**

## OR TRY THIS:



**MIRROR'S EDGE**  
EA DIGITAL ILLUSIONS CE  
2008

▲ What first-person platforming should be  
▼ Controls ain't so fine



**LEMMA**  
EVAN TODD  
2015

▲ Build the world you're in!  
▼ Collision detection needs improvement.



**DISHONORED**  
ARKANE STUDIOS  
2012

▲ Legendary FPS stealth/roof-hopper  
▼ Game's grasp exceeds its reach; too small.

## VERDICT:

A puzzling, polarising first-person-platformer that fails to live up to its potential, despite holding some promise.

6





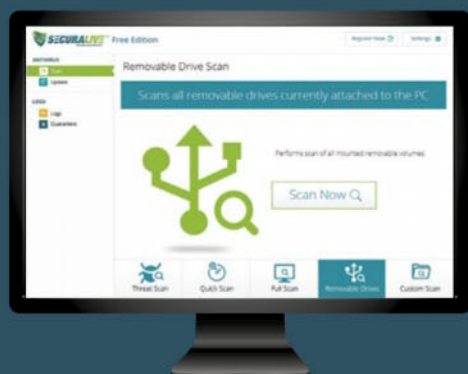
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# Project Cars

A new challenger to the throne of racing sims

DEVELOPER SLIGHTLY MAD STUDIOS  
PUBLISHER BANDAI NAMCO GAMES  
PRICE \$69.95  
AVAILABLE AT STEAM, RETAIL  
[www.projectcarsgame.com](http://www.projectcarsgame.com)

Racing simulators have long been a staple of PC gaming. Not content with the likes of Gran Turismo on consoles, petrolheads have often turned to PC racing sims with offerings of richer physics, huge multiplayer grids and a greater selection of wheels and other hardware available, designed to make them feel as close to the real track as possible.

Project CARS is a new entry to this world of sim racing. Developed by a team with a history of creating landmark racing sims like 2006's GTR2, Slightly Mad have recently been focused on creating racing fun for everyone with the Need for Speed Shift series. Project CARS is their return to creating a racing game designed to be as complex and rewarding as any other sim out there on the market, and for the most part this aim is achieved.

While the car selection of around 60 cars initially seems limited when compared with the hundreds available on console racing sims, each of these cars are highly detailed and closely resemble their real-world counterparts.

Not only is this evident in their impressive visual detail and rich sound design, but more importantly in terms of how they drive. Front-wheel drive touring cars have their natural inclination to understeer through corners, whereas the large selection of open-wheel cars available love to generate wheelspin, making them a delicate proposition to master.

This isn't to say that you aren't spoiled for choice either, with everything from entry-level 125cc karts to powerful GT cars available to be driven and crashed as you please. All of these cars can also be given a selection of assists for those of us who aren't up to the challenge of driving these cars unaided.

However, in comparison to other modern top of the line racing sims like Assetto Corsa, the driving model of pCARS feels somewhat simplified. This is most pronounced at high speeds where losses of grip can be saved effortlessly, when they should really be ending up with your mangled car stuck in a barrier.

In addition, the everyday road cars

available are simply not fun to drive. They have a tendency to feel more difficult to control at moderate speed than the high torque F1 cars driven at their limit, which makes little sense.

Luckily the much better racing-spec vehicles take up the vast majority of the available selection and for the most part the simplifications to the driving model can barely be noticed in the heat of on-track battle. However for those of you hoping that this title delivers a new benchmark for racing sim physics, expect to feel disappointed.

Project CARS is a mixed bag controller-wise. Wheel support is great, with support for all the popular wheels out there included. Despite this, when it comes to force feedback effects, expect to have a painful time tweaking settings to get these effects to your liking. Out of the box settings are lacking, with very little information about car's grip level being fed through the wheel.

I am still yet to feel satisfied with the force







High speeds, low rider.



Where are the Item Boxes?

feedback despite hours of tweaking using community-suggested settings. I hardly ever feel that I have a sense for the grip level of my front tyres, information that is provided much more effectively elsewhere in the sim racing world. This leads to guesswork during cornering, which is not exactly ideal considering pCARS' demand for consistency.

Tweaking is made even more unnecessarily complex as force feedback is adjusted through three completely different menus, only one of which is available while on-track. For those of you playing on gamepads, also expect a bit of time in the menus changing settings, as the default



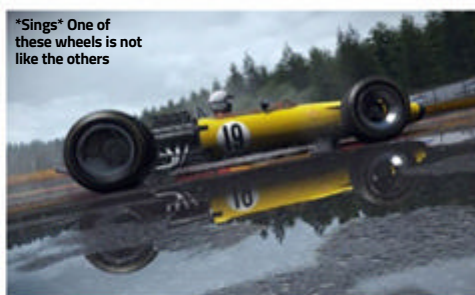
steering settings feel too twitchy in corners and too floaty on straights.

The core of the pCARS single-player experience is career mode, which is by far its best feature. Compared with the barebones career modes in other racing sims, pCARS features a multiple-season system with many racing disciplines available. The best part is that the career path you take is completely up to you. For example, you can mimic the path from karting to Formula 1 that superstars like Lewis Hamilton have done in real life, complete with multiple open-wheel categories that you need to succeed in to be promoted up the ladder to F1.

Alternatively, you can decide to start out in touring cars and work your way towards driving prototypes and GT cars in the iconic 24 Hours of Le Mans endurance race, or you can start your career in the top flight and aim to stay there for as long as possible instead. The career is only limited by your imagination, and coupled with the mock-social media integration where people can cheer you or make fun of you based on your performance, it all feels impressively in-depth compared to its competition.

This customisation aspect is replicated in the race settings as well. You can opt to do full-length sessions or shorten them down to a few minutes each if you feel like rushing through a particular part of your career. It is a level of customisation that I hope future racing games use, as there is nothing more frustrating than not having opportunities to qualify at the front of a grid before a race and always starting from the back of the field instead. The only criticism I have is of the highly-touted AI system, which often feels too aggressive and touchy-feely against human players and too tame against other AI controlled cars.

All of this can be carried out on the largest selection of tracks currently available in any racing sim, with over 100 tracks available from over 30 different locations, including Aussie favourite Bathurst. It is an impressive



## It all feels impressively in-depth compared to its competition

### WHY SHOULD I CARE?

- You watch F1 and think "I can do better than these whingers"
- You think freeway driving is a race with slipstreaming and overtaking.
- You think Bathurst is a better place for a holiday than Hawaii.

collection, however there are few tracks available in the game that use high-precision laserscan technology, a feature that is standard in Assetto Corsa and iRacing.

This means that the tracks pCARS shares in common with these two sims, like the popular Spa-Francorchamps and Silverstone circuits, feel less detailed than their laserscanned counterparts that feature centimetre-accurate bumps and dips on the road surface. However, the few laserscanned tracks in pCARS are fantastic and the vast selection of other tracks are more than acceptable to drive on.

Multiplayer is a disappointment. Project CARS features dedicated servers, and when racing on said

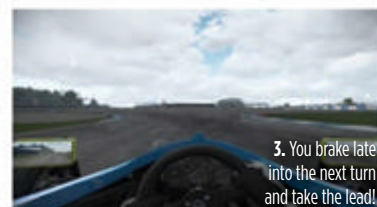
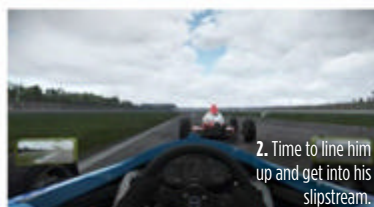
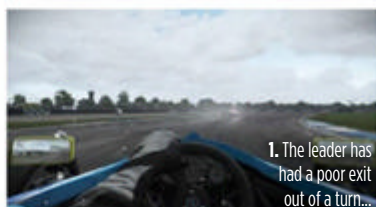
servers the experience provided is great. However, the majority of races found online are being hosted peer-to-peer, and these races tend to end in a lag-affected mess, with poor collision detection and questionable stability. Finding dedicated servers is unnecessarily tricky as well, as there is little information provided in the server browser itself.

This is compounded with the use of a flawed lobby system that limits the availability of dedicated servers to when the host of the server is actively running a session, which is a backwards system compared to servers available 24/7 that are an expectation for PC gamers.

There's a major selling point of

### SEQUENCE

#### A risky overtake







## RACE START

1. KERS and DRS can be used for cars that have them installed.
2. Slicing your way through a large group of cars is always satisfying.
3. The lighting effects at dawn and dusk are stunning.
4. Detailed mirrors provide great information about cars behind.
5. Steering wheels are highly detailed replicas of the real thing.



PC racing sims that is also lacking in pCARS: mod support. While the game has a long future planned in terms of DLC, no user-created cars or tracks will ever feature. This limits the lifespan of pCARS drastically, as user created content has kept sims released years ago alive today with quality content. With Assetto Corsa following this mod-friendly path, pCARS has really missed the mark.

Visually pCARS is a looker, especially during the stunning dynamic time of day and weather changes. However, pCARS requires top of the line hardware to even consider playing at ultra settings with large grids of AI and wet weather simultaneously.

This is made worse for AMD

hardware owners, where users are struggling for performance at the time of writing. This currently makes pCARS hard to recommend for owners of AMD hardware, although hopefully this is improved in future driver releases. UI issues also hurt the menus, with its flashy appearance hiding core functionality issues when changing options, car setups and even watching replays.

To add to this, pCARS is also plagued with various bugs: game crashes, inconsistent corner cutting and jump start penalties, invisible walls in the road surface and even magical flying cars. Bug-filled releases are no stranger to modern gaming, however considering this game was in

early-access for its 60,000 backers for three years, it seems odd that so many obvious issues made it to the final release.

Overall, Project CARS is a solid experience that provides a new niche in racing games. While it doesn't provide as faithful an experience as other top of the line sims, it is a significant step forward in depth for the genre. Career mode provides a new benchmark for racing sims, but this is sadly levelled out by numerous issues elsewhere, especially with controller setup and multiplayer. It is unfortunately not the revolution that many hoped it would be, as on its own terms it is just another strong but unpolished racing game.

JUSTIN TALENT **PC**

## OR TRY THIS:



### ASSETTO CORSA KUNOS SIMULAZIONI 2014

- ▲ Incredibly detailed car physics
- ▼ Poor career mode and AI



### GRID AUTOSPORT CODEMASTERS 2014

- ▲ Enjoyable sim-arcade mix
- ▼ Messy online multiplayer



### STOCK CAR EXTREME REIZA STUDIOS 2014

- ▲ Great selection of cars
- ▼ Dated graphics engine

## VERDICT:

Fun but unremarkable sim racing that is impacted by various issues and an overall lack of polish.

**7**



# Quarries of Scred

Pa, I've got the black lung!

DEVELOPER HAMMERSPACE GAMES  
PUBLISHER SURPRISE ATTACK  
PRICE \$5.99 USD  
AVAILABLE AT STEAM  
[www.quarriesofscred.com](http://www.quarriesofscred.com)

Some games make a name with flashy graphics, an amazing storyline or a host of subtle mechanics that breathe life into the world. Quarries of Scred is not such a game. It's a game predicated on simple, beautifully executed ideas and an immediate feedback loop that can get you hooked on game after game, even when death and restarting is an inevitability. Looking like something that would have been a hit on the Apple IIe or Spectrum, Quarries of Scred nonetheless has more than enough going for it to keep any player with an interest in retro-gaming involved for hours.

Players take the role of Bob, a bad miner who is forced to mine as punishment for his bad mining deeds. His job is to dig down through levels of dirt and rock to collect jewels that can be brought back to the surface to cash in for credits. When not supported by dirt, the rocks that litter the levels slide and fall, and as we all know, getting hit by a rock spells certain death. As does bumping into any kind of creature or being subsumed by the fungus that can spread throughout mines. Basic gameplay is both simple and unforgiving, with the arrow keys providing movement and permadeath ensures that you try your hardest to succeed.

Credits gained by cashing in gems can be used to purchase landmines and lasers, two things you probably shouldn't give to a bad man being punished but also vital for clearing blockages and reaching the lower levels of the mines. The supposed ultimate goal is to collect enough credit to buy a teleporter and escape



Make sure you have the highest specs before running this graphical masterpiece

...you may find yourself making mistakes and getting crushed to death by rocks or eaten by bats

## WHY SHOULD I CARE?

+ You think flashy graphics are a distraction

+ You have a perverse fondness for death and rebirth

+ You like to try, try again

the dark pit - again something that you probably wouldn't want to sell a prisoner - but really, the real ultimate goal is getting a high score. This is where the immediate feedback loop really comes into play. Completing the game is difficult but definitely achievable for most players, and after you've done it once you'll want to do it again, only this time hoard more credits. To do that you'll need to take more risks, which means you may find yourself making mistakes and getting crushed to death by rocks or eaten by bats. Then you'll have to start again to see if you can keep that high credit score and complete the game. Before you know it, you're hooked. It's a vicious cycle.

The levels are randomly generated using a seed system that ensures that no two games will be alike. The system also seems to be incredibly fair; when you die, and you will die over and over again, it will be your fault, and not a quirk of an unfairly designed level. Instead of this, the level can sometimes be disappointing - not that any level is terrible - but that you may die on a great level and have to live with the fact that you'll never see it again. Quarries of Scred definitely isn't a game for everyone, but if you want a game that rewards perseverance and endurance and you don't mind a game looking like it warped in from the 80s then you'll find a lot to like. **DANIEL WILKS**

## OR TRY THIS:



**SUPER MEAT BOY**  
TEAM MEAT  
2010

▲ Brutally hard platforming  
▼ Doesn't look archaic



**VVVVVV**  
TERRY CAVANAGH  
2010

▲ Even harder platforming  
▼ Possibly the work of the devil



**NIDHOGG**  
MESSHOF  
2014

▲ Immaculate feedback loop  
▼ You need friends

## VERDICT:

An immediate feedback loop of risk and reward that rewards those with endurance.

8



# The Incredible Adventures of Van Helsing 3

The end...or is it?

DEVELOPER NEOCORE GAMES  
PUBLISHER NEOCORE GAMES  
PRICE \$14.99 USD  
AVAILABLE AT STEAM  
[www.neocoregames.com](http://www.neocoregames.com)

The Incredible Adventures of Van Helsing trilogy finally comes to an end, but after the high point that was TIAVH2, the final installment comes more as a whimper than a bang. There's still a lot to like about the plucky ARPG, but a lack of balance, some odd design choices and numerous hints that there may have been some cut and paste between the second and third games lend some unwelcome tarnish to the experience.

This time around, Van Helsing and his ghostly sidekick, Katarina, are on the trail of former mysterious ally turned even more mysterious supervillain, Prisoner 7, of course killing monsters throughout Borgovia and travelling through the Ink, the strange substance that forms the template for reality. It's all very silly and melodramatic but works in the context of the game and gives more than enough of an excuse to keep players clicking on things until they explode into loot. As with the previous games, the tone is light hearted and comedic, but the writing in the third game is much more haphazard. The constant pop-culture jokes that peppered the first two games remain but are reduced to little more than references, with Van Helsing name checking a thing rather than actually making a humorous reference to it. The voice acting is pretty terrible but deliberately so, with cheesy accents abounding and strange pronunciation or cadence being the order of the day.

Rather than the three character classes of Van Helsing 2, the final game in the trilogy features six unique character classes, each of which



It's all very silly and melodramatic but works in the context of the game...

## WHY SHOULD I CARE?

+ You think all vampires should sound like the Count

+ You think Epic Movie is a work of genius

+ You've played the previous two games

plays remarkably differently. The Constructor, for example, is a pet using class capable of summoning swarms of drones, turrets and "Dismemberbots" to take on enemies whereas the Umbralist is a stealthy rogue class who utilises fast hit and run attacks to take down enemies. The variety of characters adds some welcome replayability to the rather short campaign that limits characters to level 30 and features little other than some uninteresting PVP once the story is complete.

There are some lovely touches in the level design that add a much needed spark to the game, from skeletal trees looming over the player in a forest, fading in and out as the

camera demands, or the scale of the background in some of the Ink levels, but the fixed camera angle is definitely a problem as it often obscures enemies or clickable objects behind terrain. In one instance an entire puzzle is placed so close to a wall that none of the elements are visible, forcing the player to slowly move the mouse until a tool tip informs them there is an interactive object.

Even with the obvious flaws, the can do attitude of Van Helsing 3 is still engaging and there is enough fun to be had to satisfy ARPG fans. It's not going to be a game that's remembered that fondly, or possibly at all, but it does offer a dozen or so hours of fun in the meantime. **DANIEL WILKS**

## OR TRY THIS:



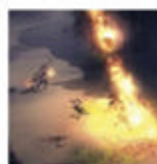
**THE INCREDIBLE ADVENTURES OF VAN HELSING 2**  
NEOCORE GAMES  
2014

▲ Best Van Helsing  
▼ Not Hugh Jackman



**PATH OF EXILE**  
GRINDING GEAR GAMES  
2013

▲ The best ARPG around  
▼ Online only



**SHADOWS: HERETIC KINGDOMS**  
GAME FARM  
2014

▲ Play a demon  
▼ Underwhelming combat

## VERDICT:

Riddled with problems but charming in its obvious enthusiasm.

6



# Not a Hero

Sidescrolling action with a great sense of humour

DEVELOPER ROLL7  
PUBLISHER DEVOLVER DIGITAL  
PRICE \$US12.99  
AVAILABLE AT STEAM  
[www.notahe.ro](http://www.notahe.ro)

**N**ot a Hero is pitched as a “2.5D [not a typo] cover-based indie shooter” but... well, that’s actually a pretty damn apt description. When we fired it up for the first time, the easiest comparison that came to mind was that Not a Hero is basically a side-scrolling version of the top-down Hotline Miami.

That’s a bit of a simplification, but it gives you an idea of the type of game you’re playing: 8-bit visuals on a (mostly) 2D plane with gratuitous violence and over-the-top characters. For instance, one of these characters equates to an anthropomorphic bunny who also happens to be a mayoral candidate (of course) giving out nefarious missions to a bloodthirsty vagrant. If you can imagine a mash-up of the relentless gunplay of Shoot ‘Em Up with the weirdness of Donnie Darko, you’ll get the idea.

Also, the bunny speaks in weird squeaking noises, where everyone else is hilariously cockney, Welsh, Scottish, or... something.

The levels are designed to be completed quickly, with pesky realistic facets such as player line of sight thrown to the wind. The idea is for players to get a feel for a mission on the first run and then to come back and best it properly.

In terms of mechanics, Not a Hero is quite simple. The arrow keys are used to move left and right, or up and down staircases, with a few other keystrokes dedicated to shooting, reloading, activating special weapons and shifting into cover. Even though that’s relatively simple, I kept tripping over the odd default key bindings, where ‘c’ controls shooting, ‘space’ reloads, ‘v’ activates a special weapon and ‘x’ moves into cover. Honestly, it just felt strange that ‘c’ was



...the relentless gunplay of Shoot ‘Em Up with the weirdness of Donnie Darko

## WHY SHOULD I CARE?

- + You love bunnies.
- + You like shooting people in the head.
- + Bunnies, seriously.
- + You want a game with action AND a sense of humour

used to shoot more than anything else.

It didn’t help that the first playable character has a roll ability that was activated with ‘x’, meaning I got lost determining whether my roll was going to leave me out in the open or behind cover. Speaking of cover, that’s indicated by a shadow over the playable character, and there’s an extra level of complexity in that enemies will also use cover if they spot you running and gunning.

If you get close enough or knock them off their feet, you can perform bloody executions, which reap extra points, but these are quite challenging to pull off, especially against opponents armed with shotguns or machine guns. The most frustrating mechanic is that

the first playable character has to stop moving in order to reload. While this is a good way to reinforce the idea of using cover, it broke the awesomely frantic momentum of the levels, which were a hell of a lot of fun to play at blistering pace. Thankfully a later character has the ability to reload on the run, though she has a lower magazine capacity. Random weapon pick-ups mix the game up a little too.

Considering missions can be completed rather quickly, with plenty of action-movie tropes thrown in for good measure, it’s the kind of game that’s perfect for shorter gaming sessions - like, when you’re feeling a bit burnt out by The Witcher 3. **NATHAN LAWRENCE & DAVID HOLLINGWORTH**

## OR TRY THIS:



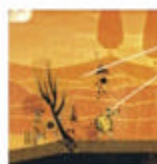
**HOTLINE MIAMI**  
DENNATON GAMES  
2012

- ▲ Fast, top down action
- ▼ You’ll never trust masks again



**GUNS, GORE & CANNOLI**  
CRAZY MONKEY STUDIOS  
2015

- ▲ It’s mob-tastic
- ▼ No actual delicious deserts



**APOTHEON**  
ALIENTRAP  
2015

- ▲ Swords and sandals
- ▼ No bunnies

## VERDICT:

A bright and fun side-scroller that you can lose hours in, or just play for a few minutes - either way, it will keep you coming back.

**8**



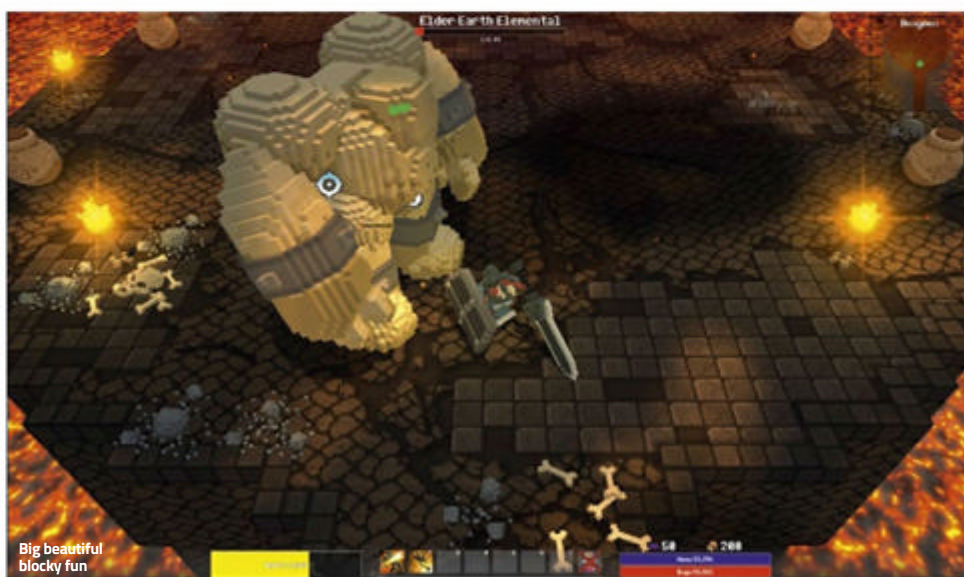
# Forge Quest

The Block Heads (sans Ian Dury)

DEVELOPER CHASE GROZDINA, DAVID FLEIG  
PUBLISHER OPEN REALMS LLC  
PRICE \$9.99 USD  
AVAILABLE AT STEAM  
[forgequestrpg.com](http://forgequestrpg.com)

Though still in early access, Forge Quest, a dungeon crawling, voxel-based hack and slash ARPG looks extremely polished. It's also charming as hell, not simply because of the blocky world but for the humorous back story as well. Set in the land of Schmoop, players take the role of a licensed adventurer. The license is important, because adventuring is what keeps the economy buoyant. You see, many years before, the constant battles between good and bad became so omnipresent that the entire economy relied on them – blacksmiths repaired weapons and armour, henchmen were in high demand, as were healers, potion makers, poisoners and the like. When good finally overcame evil, the economy collapsed. Now, to keep things balanced and allow the trades to flourish, Schmoop licenses heroes and villains, maintaining a balance between the sides so that everyone, outside of the inevitable dead heroes and villains, can flourish.

Forge Quest is a game about exploration and combat in a non-linear, randomly generated world. Running around Schmoop or its many dungeons is a pleasure thanks to a control system that melds parts of both a common ARPG and a twin stick shooter. Players move with the WASD keys, aim with the mouse, attack with the mouse buttons (each class has one melee and one ranged attack) and use special abilities hotkeyed to 1-8. Players can also dodge roll with the spacebar or block by holding left shift. Special abilities use either Rage or Mana, resources that are replenished by quaffing potions or making normal attacks against enemies. As flashy as



Now, to keep things balanced and allow trades to flourish, Schmoop licenses heroes and villains...

## WHY SHOULD I CARE?

+ You thought my Ian Dury standfirst was hilarious

+ You think pixel art is dead, long live the voxels!

+ You want to play Zelda but won't touch a console

some of the special abilities are, the key to combat is knowing when to block and when to roll out of harm's way rather than simply spamming attacks. Each enemy has a unique attack pattern or special ability – small spiders jump and usually come in packs, while large spiders spit webs. Some enemies behave erratically while others have very set patterns that can be to your advantage. It's not the most subtle of systems but it brings to mind games like Zelda and Ys, and that's not a bad thing at all. In addition to the combat, players can mine crystals for materials used in crafting or engage in a Bejeweled kind of game to harvest multicolour crystal outcroppings. Players can also combine similar

items to increase their level and thus power. It's a simple crafting system but enjoyable in how straightforward it is. Other tools available for purchase actually let the player manipulate the world by mining and harvesting.

Up to three other players can join you on your adventure, but the single player adventure is equally enjoyable, especially playing with permadeath. There's no set date for the final release of Forge Quest as yet, but looking at the level of polish, we wouldn't be surprised if the final product is released in another month or two. It's not the most subtle or deep hack and slash game out there, but it should definitely fill those cravings for conquest, exploration and loot. **DANIEL WILKS**

## OR TRY THIS:



**YS VI**  
NIHON FALCOM  
2015

▲ Wonderful action RPG  
▼ Feels dated



**PIXEL HEROES**  
THE BITFATHER  
2015

▲ Satirical pixel RPG  
▼ No voxels



**BITDUNGEON 2**  
KINTOGAMES  
2014

▲ Permadeath pixel ARPG  
▼ Again, no voxels

## VERDICT:

Still in early access but definitely one to keep an eye out for.

**N/A**



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# 241Tech

YOUR GUIDE TO PC GAMING HARDWARE



## The happiest place on Earth!

Let's play where's Bennett!

So here's a little puzzle for you. I'm currently away from the labs, on one of our regularly tech pilgrimages. There are halls packed full of hardware, from new motherboards and video cards, to PCs and PC cases, keyboards, and more. There's overclocking, case modding, and access to the people who make all the hardware we drool over.

Where am I?

Well, I'm in Computex, in Taiwan, the biggest PC hardware trade show on the planet. And, for us, one of the big events of the year, at least as big as E3 - which is a couple of weeks away as I type.

Anyway, speaking of drooling, there's more than a few things to drool over this issue, and it'll surprise no one to find out we're quite in love with NVIDIA's crazy new Titan X card. You'll want to check out our review - we're sure you'll love it too.

**Bennett Ring**  
Tech Editor



Our Power Award is given to products that are best in class no matter your budget.



Our Smart Buy Award goes to products that balance performance with price tag.

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**DISPLAY**  
DELL U2711  
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# Grand Theft Auto V

## PC Performance Analysis

Make the most of your time in Los Santos with our handy guide. BENNETT RING

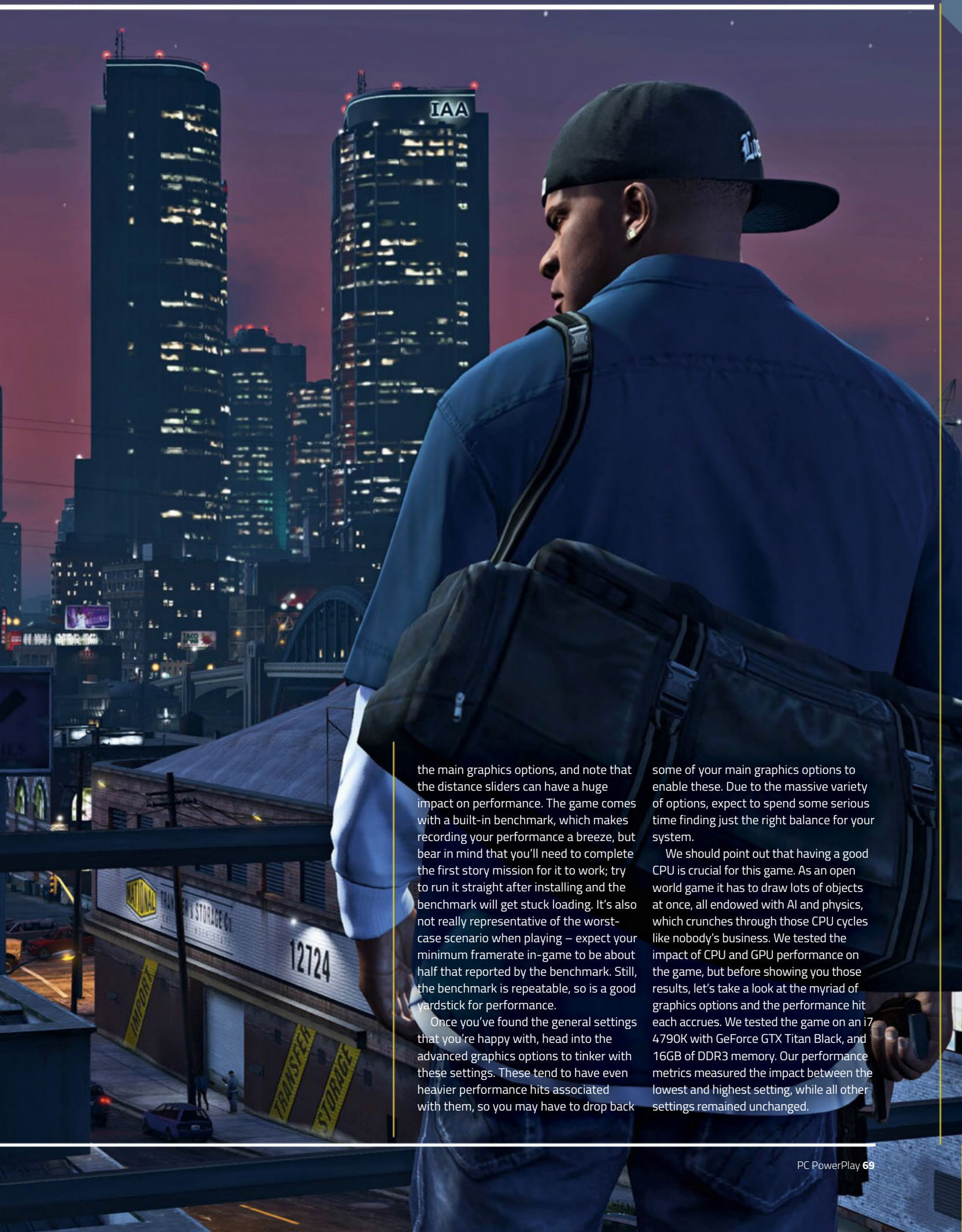
We're trying something a little different this month in PC PowerPlay's tech section, by taking one of the year's most anticipated PC titles and putting it through its paces on a variety of GPUs and CPUs. The game in question is Grand Theft Auto V, and to say PC gamers have been itching to scratch their trigger fingers in its epic open world is like saying the media beat up around the hot coffee mod was only slightly sensationalistic. We've had to wait two long years for the PC version of Rockstar's Magnum Opus to land on the one, true gaming platform, but the excruciating wait has been worth it. Past PC ports of Grand Theft Auto have been rough to say the least, but Rockstar has truly outdone itself this time around, delivering a magnificently polished experience with a huge range of graphics

options. Crank these detail settings to maximum and it's almost an entirely new game compared to the console versions, with vastly further draw distance, richer textures and a swathe of sexy new graphical effects. You'll need an absolute beast to run it at maximum detail, yet Rockstar has ensured that even mid-range systems get a console-beating experience.

### GENERAL PERFORMANCE TIPS

GTA V is likely to inspire some serious spending amongst the PC hardware community, as it is one of the most demanding games in existence. Put simply, there isn't a PC around that can handle every graphics option cranked to the maximum, as there are a couple of settings that will humble even a pair of Titan X graphics cards. Start by tweaking





the main graphics options, and note that the distance sliders can have a huge impact on performance. The game comes with a built-in benchmark, which makes recording your performance a breeze, but bear in mind that you'll need to complete the first story mission for it to work; try to run it straight after installing and the benchmark will get stuck loading. It's also not really representative of the worst-case scenario when playing – expect your minimum framerate in-game to be about half that reported by the benchmark. Still, the benchmark is repeatable, so is a good yardstick for performance.

Once you've found the general settings that you're happy with, head into the advanced graphics options to tinker with these settings. These tend to have even heavier performance hits associated with them, so you may have to drop back

some of your main graphics options to enable these. Due to the massive variety of options, expect to spend some serious time finding just the right balance for your system.

We should point out that having a good CPU is crucial for this game. As an open world game it has to draw lots of objects at once, all endowed with AI and physics, which crunches through those CPU cycles like nobody's business. We tested the impact of CPU and GPU performance on the game, but before showing you those results, let's take a look at the myriad of graphics options and the performance hit each accrues. We tested the game on an i7 4790K with GeForce GTX Titan Black, and 16GB of DDR3 memory. Our performance metrics measured the impact between the lowest and highest setting, while all other settings remained unchanged.



# Graphics Options

## 1 Video Memory

This shows you just how much GPU memory your various settings are chewing up, with the maximum value set to what your GPU has. Keep the slider in the green to stop your GPU from having to fetch data from your pesky – and slow – system memory.

## Ignore Suggest Limits

If you choose a variety of settings that see the game's memory use soar above the limit of your GPU, you'll get a warning that stops you from doing so. However, we've found that it's sometimes ok to run with settings that exceed your GPU's memory, as it doesn't necessarily cause massive slowdowns. We'd suggest disabling this setting as a result.

## 2 Screen Type

This is an easy one – most users should select fullscreen. However, if you're running a weird custom resolution, try running the windowed or borderless windowed mode. Note that doing so will disable any multi-GPU acceleration though, as SLI and CrossFire both need games to run in fullscreen mode to work.

## 3 Resolution

You guessed it – select the native resolution of your display for the crispest possible image quality. If you don't mind a bit of blurring in exchange for increased performance, you can try dropping this to lower than your display's res.

## 4 Aspect Ratio

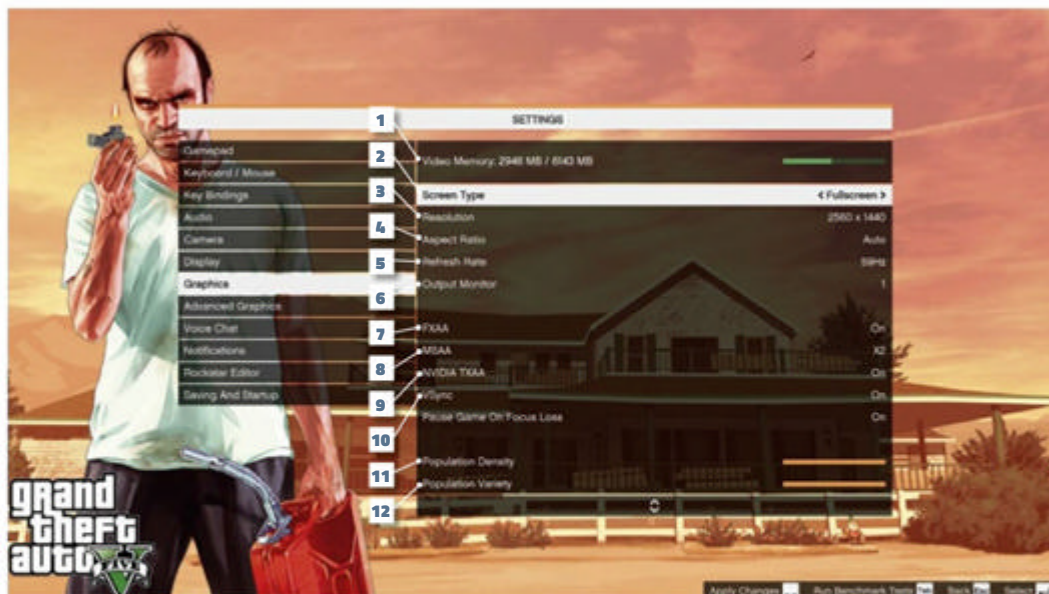
Another one that is best left at default, unless you're running one of those crazy Ultra Wide displays and the game isn't detecting it properly.

## 5 Refresh Rate

A lot of users have found a bug whereby the game runs at 59Hz on 60Hz displays, which causes ugly stuttering. If this is the case for you, first try to force the game to run at 60Hz via the ingame control. If this still doesn't work, and you use an NVIDIA card, disable the game's v-sync and use the NVIDIA control panel to force v-sync instead. You should now see 60Hz as the refresh rate. It's also worth setting this to 30Hz if you're running a low to mid-range PC that can't display frame rates much beyond 30 fps. By limiting it to 30Hz, you'll get an overall smoother performance. By the way, the 59Hz bug can reappear if you alt-tab out of the game and then back into it, requiring a full restart of the game to return to 60Hz. Hopefully this is patched in future.

## 6 Output Monitor

If you're running more than one display, choose the one you'd like the game to run on here.



## 7 FXAA

This stands for Fast Approximate Anti-Aliasing, and it's a nice way to smooth out jaggies without too much of a performance hit. However, it's definitely not in the same league as good old fashioned MSAA when it comes to producing sharp, clear images. Then again, the performance of FXAA is much better.

Performance hit:  
3%

## 8 MSAA

Multisample Anti-aliasing has been a mainstay of PC gaming for many years, yet it's getting harder to find on modern titles due to its issues with deferred rendering. Thankfully GTAV allows users to set MSAA, but be warned – this is a performance killer, especially at higher values.

Performance hit between 0xMSAA and 8xMSAA:  
30%

## 9 NVIDIA TXAA

If you're lucky enough to own an NVIDIA product that supports TXAA (Temporal Anti-Aliasing), you can try enabling it here. It's a compromise between the image quality of MSAA and the performance hit of FXAA, though some find that it can dull texture detail. It can also require hefty performance at higher resolutions, albeit not as much as maximum MSAA.

Performance hit between 0xTXAA and 4xTXAA:  
21%

## 10 VSync

Choosing whether or not to enable VSync is definitely a personal opinion. We hate screen tearing, and have a PC powerful enough to maintain 60fps most of the time, so leave it on. However, if you hate the stuttering and lag introduced by Vsync, or don't have the most powerful PC around, try disabling this setting to increase your overall framerate.

## 11 Population Density

This setting determines just how busy the streets of Los Santos are, both in terms of pedestrians and vehicles. Cranking this to the maximum will give you a very busy city, but it can cause rather large performance issues in the city centre. This also impacts performance of the reflection, shadow and post Fx settings, as the higher the number of entities in each city, the more of these effects need to be applied to each one. Dialling up the density may require turning down the other three, and vice versa. Note that this setting doesn't have much impact on the benchmark, but it will have more of an effect in-game.

Performance hit:  
8%

## 12 Population Variety

This has no performance impact, outside of the amount of memory consumed on your GPU. It determines how many different models are used amongst the population, and the more GPU memory you have, the higher you can crank this settings.

Performance hit:  
0%

## Distance Scaling

This affects the Level of Detail of distant objects; the higher it is, the more detail and less pop-in you'll see on far off objects, including cars, buildings and terrain. Obviously this can cause performance issues, especially on PCs with lesser CPUs. This is one of the main differences of the PC version, as it allows much higher detail levels of distant objects than the console versions.

Performance hit:  
9%





### 13 Texture Quality

One of the major improvements to the PC version is the inclusion of higher resolution textures, and the Texture Quality setting determines just how detailed they are. This impacts the amount of GPU memory used by the game, so drop it down a notch if you're having memory related performance issues. On our system it barely caused any performance hit.

Performance hit:  
3%

### 14 Shader Quality

GTA V uses a wealth of different shaders to improve detail on different things, including but not limited to water, vegetation, lighting, other small but noticeable changes. One major difference between Very High versus Normal is the intricate detail on textures; rocks and other surfaces look much more detailed when Shader Quality is cranked to its maximum level. This setting has a huge impact on performance, so crank it to full only if you have frames to spare.

Performance hit:  
23%

### 15 Shadow Quality

Shadow quality has a huge impact on the image quality, as all objects in the game cast dynamic shadows. If this is set to low, they'll appear blocky and square, while at their highest value they're soft and realistic.

Performance hit:  
10%

### 16 Reflection Quality

GTA V has plenty of shiny vehicles and surfaces, and this setting determines just how crisp the reflections seen within them are. This is most obvious inside buildings with mirrors; at the highest level the reflections are high perfect, whereas lower

Performance hit:  
14%

... crank it up and water will look almost photorealistic, with less impressive ripples at lower settings.

settings see rather blobby representations of the reflected world. It can have a considerable hit on performance though, as much as 25% depending on your GPU.

### 17 Reflection MSA

Rockstar has considerably offered gamers the option to tweak how much antialiasing is applied to reflections, which is a first for us. It's not that noticeable in-game though, and the 10 to 15% performance hit between the highest and lowest settings means it can be safely knocked back a notch or two to allow extra performance elsewhere.

Performance hit:  
10%

### 18 Water Quality

This does exactly what it says on the tin – crank it up and water will look almost photorealistic, with less impressive ripples and reflections as the setting is lowered. Expect a 5% performance hit between low and high detail settings.

Performance hit:  
5%

### 19 Particles Quality

Particles are used extensively throughout GTA V, from the way water splashes in wet scenes, to the smoke and sparks in the middle of a firefight. Surprisingly there's no

Performance hit:  
10%

PhysX acceleration offered for particle effects. Given the importance of explosions in the GTA V experience, we reckon the 10% performance trade-off for maximum particle effects ain't too shabby.

### 20 Grass Quality

This is one of the surprising performance killers, with the Ultra setting basically unplayable on any rig. It determines just how much grass is drawn, as well as how detailed the grass and its accompanying shadows are. If you can run this on Ultra, please tell us how you managed to transport a PC from 2020 back in time.

Performance hit:  
32%

### 21 Soft Shadows

This determines just how realistic soft shadows are in the game. NVIDIA owners should select the NVIDIA PCSS option, while AMD users should select AMD CHS, as these are proprietary shadow techniques, unique to each manufacturer. Soft Shadow quality can have quite a large impact on performance though, up to 18% in our test.

Performance hit:  
18%

### 22 Post FX

A huge range of different special effects make up this single setting, and they include bloom lighting, glare, lens flare, depth of field, HDR lighting, heat haze, god rays and volumetric effects. Is it any surprise then that this setting can have a huge impact on performance?

Performance hit:  
29%

### 23 In-game Depth of Field Effects

This blurs things when you're looking down your sights, or getting into vehicles, with a minimal performance impact.

Performance hit:  
3%

### 24 Anisotropic Filtering

Crank this to the maximum for the cleanest textures at long range, all with basically no perceptible drop in frame rate.

Performance hit:  
2%

### Ambient Occlusion

This subtle effect is supposed to make lighting and shadows appear more realistic, but is apparently a little buggy in the current build of the game.

Performance hit:  
3%

### Tessellation

Tessellation creates extra surfaces in object models, but appears to be very limited in GTA V. We could barely spot any difference between this being on or off.

Performance hit:  
4%

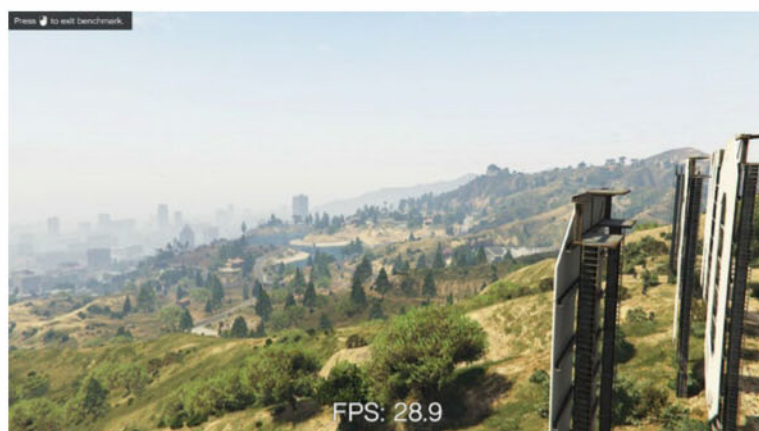




By day, you'll want great shadows...



And by night, you'll want those excellent lighting effects.



Playing around with draw distance can make a huge impact on what you can see in the world.



The Vinewood Hills have never looked so good!

**25 Long Shadows**

Want better looking shadows that stretch as the sun rises or falls? This is the setting that handles just how long they'll grow.

Performance hit:

7%

**26 High Resolution Shadows**

If you're using the AMD or NVIDIA specific shadows, this setting will have basically no impact. However, it does create nicer shadows when using the other soft shadow settings.

Performance hit:

6%

**27 High Detail Streaming While Flying**

If you spend a lot of time in the air, make sure this is enabled, as it will reduce the amount of pop-in while flying. Notice that we said reduce, as it's impossible to remove pop-in entirely.

Performance hit:

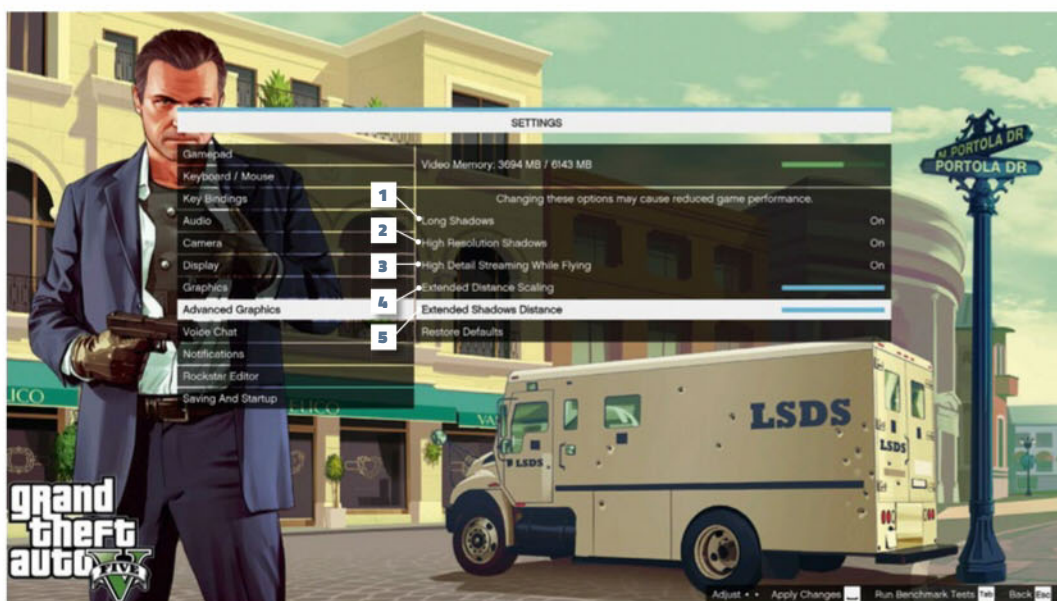
5%

**28 Extended Distance Scaling**

If you want extreme detail at long distance, crank this slider up, and you'll see far-off objects imbued with more polygons and better textures. It can suck away your frames though, especially in areas with a long viewing distance filled with objects.

Performance hit:

19%

**29 Extended Shadows Distance**

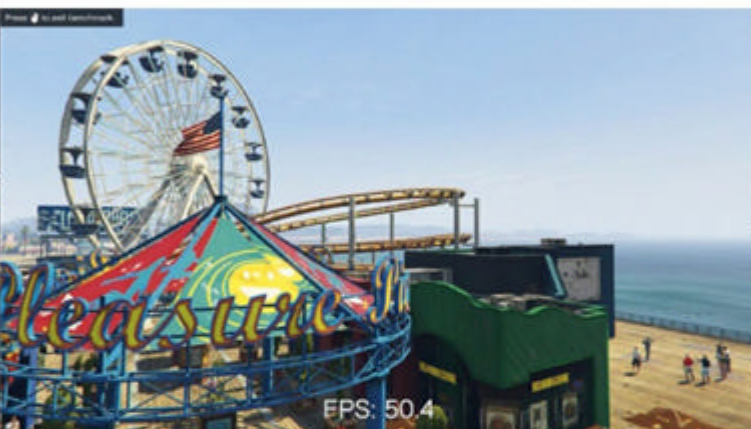
Believe it or not, this setting increases the distance at which shadows are drawn around objects. The performance hit is minimal, and it can help stop that annoying shadow pop-in that can be so jarring.

Performance hit:

6%

■ Notice we said reduce, as it's impossible to remove pop-in entirely. ■





Fancy a day...



... or a night out?



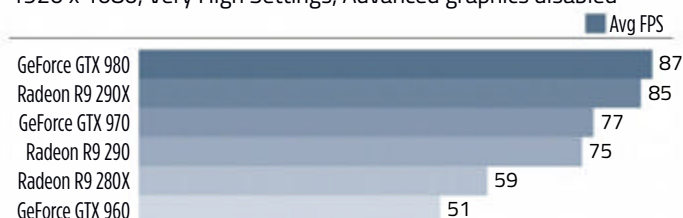
Travelling fast at higher detail settings can affect frame rates.



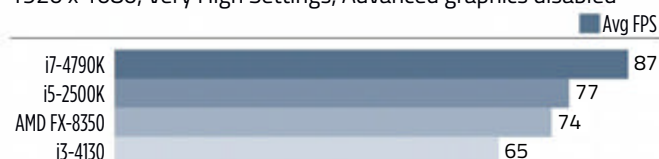
The game features a lot of things blowing up, so make the most of the carnage.

## GRAND THEFT AUTO V Benchmarks

1920 x 1080, Very High Settings, Advanced graphics disabled



1920 x 1080, Very High Settings, Advanced graphics disabled



Now that you can see which settings have the greatest impact, let's take a look at the performance of the game using six of the most popular graphics chipsets on the market. For the following test, we ran the game at Very High Texture quality, with all advanced effects turned off, at the standard HD resolution of 1920 x 1080. We ran our own benchmark this time, with our character standing in a busy part of the city as the traffic flowed by.

As you can see, the high-end and mid-range cards from AMD and NVIDIA are both very equally matched, but the GTX 960 lags well behind the pack.

Running the same graphics details,

but with a GeForce GTX 980 in place, we tested four popular CPUs to see how GTAV scales according to processor type and speed. As you can see, it's quite CPU bound.

After several days of benchmarking GTAV on the PC, we've come to several conclusions. Firstly, this is by far the finest offering that Rockstar has ever made to PC gamers. They've thrown basically every graphics technology currently available at the game, via a list of comprehensive options that are frankly a little overwhelming to play with. Still, we'd rather have too many options than not enough. Secondly, with everything cranked high, GTAV

is an absolute stunner, especially during dusk and dawn settings, with weather effects covering the screen. Finally, there is no PC on the planet that can run this with everything maxed. Thankfully, by backing off on the most demanding settings – MSAA, TXAA, Grass Quality, Soft Shadows and PostFX – it's still possible to have a version of GTAV running that makes the consoles look positively archaic. Now that we've figured out the best settings that deliver smooth performance while looking absolutely stunning, we're off to grind our way through another heist. See you on the mean streets of Los Santos. **BENNETT RING**





## GPU

# NVIDIA GeForce GTX Titan X

Go big, or go home - and NVIDIA's going very big!

PRICE \$1599  
[www.nvidia.com](http://www.nvidia.com)

Just when we thought NVIDIA couldn't release a more expensive product, along comes its latest premium product, the Titan X. Unlike previous Titans, this isn't just a slightly enhanced version of its flagship GPU; NVIDIA has gone the whole hog and developed a product that is a huge step up from the GTX 980. Whether or not it's worth the audacious price tag is another question entirely.

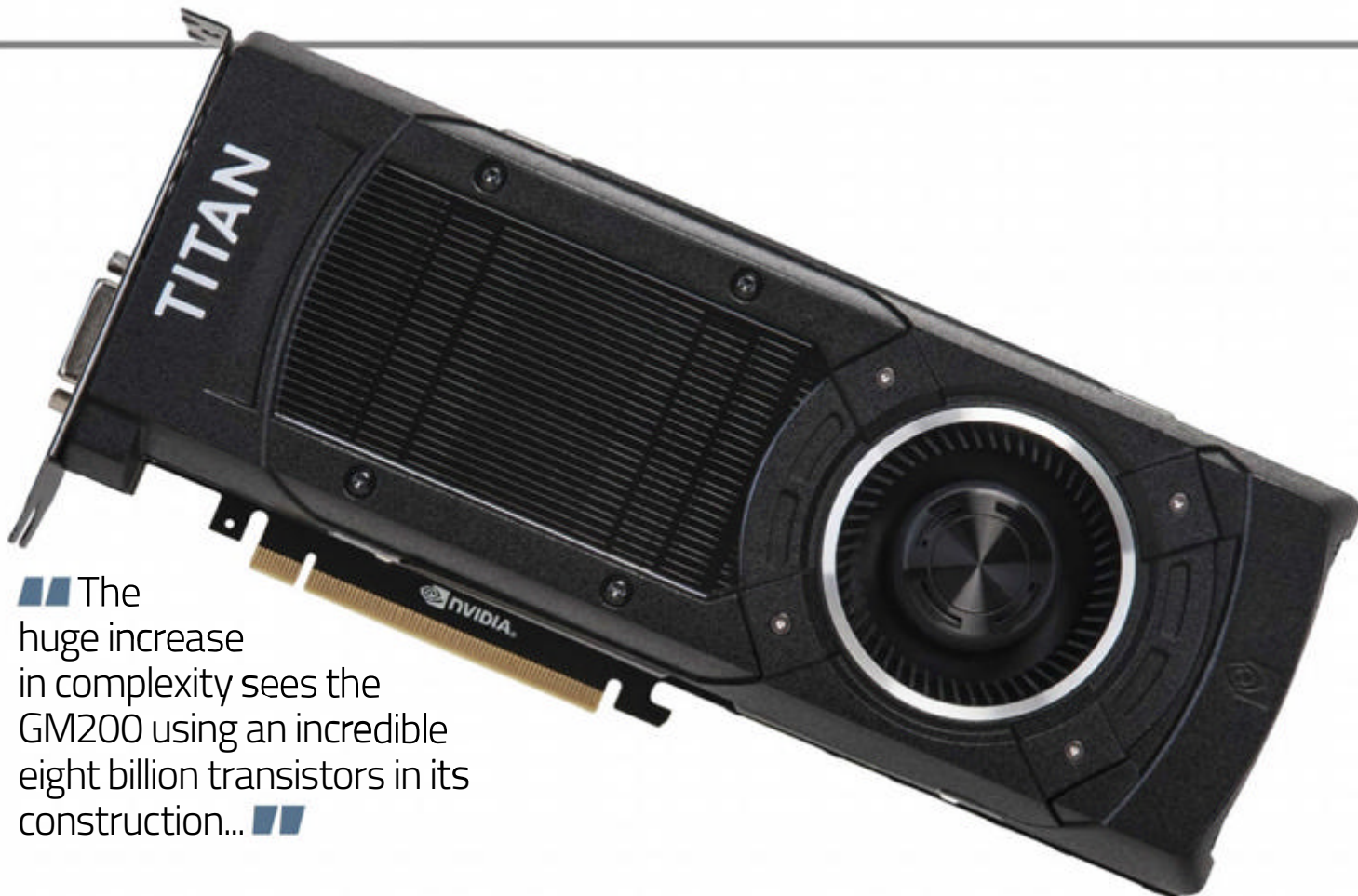
## MAXWELL WRIT LARGE

Like all of NVIDIA's existing graphics cards, the Titan X is based on its Maxwell 2 architecture. They've basically taken the GM204 chip found at the heart of the GTX 980, and increased every internal section by 50%, creating the new GM200 chip that powers the Titan X. NVIDIA's CUDA Cores are the units that handle the heavy lifting inside Maxwell, and the GM200 now ships with 3072 of these, a 50% increase on the 2048 found within the GM204. The texture units have had a similar increase, rising from 128 to 192, while the ROPs (Render Output Unit) have also increased by 50%, up to 96 from the GM204's 64. As a result, the overall size of the GPU has increased by just under 50%, making this a brute of a chip, measuring 601 square millimetres. It's no wonder that it ships at a slightly slower clockspeed than the GTX 980, with a base speed of 1000MHz, compared to the GTX 980's 1126MHz. The Boost Clock speed – the frequency the GPU increases to when under load – has also dropped, down to 1075MHz from the GTX 980's 1216MHz.

Feeding such a powerful GPU requires some serious memory bandwidth, and NVIDIA has increased the memory bus width to 384-bits, up from the 256-bit bus of the GTX 980. The GDDR5 memory is still clocked at 7GHz, the same as the GTX 980, but NVIDIA has tripled the amount of onboard memory, up from 4GB on the GTX 980 to an incredible 12GB on the Titan X. With one of these cards in place, even GTAV won't be able to fill its memory buffer, no matter how high you crank the resolution and detail. With DirectX 12 due in the near future, NVIDIA has ensured the Titan X is fully compliant with this exciting new API. In fact, Titan X supports DirectX 12.1, a feature that is also found on the latest GTX 9XX series of cards.

The huge increase in complexity sees the GM200 using an incredible eight billion transistors in its





■ The huge increase in complexity sees the GM200 using an incredible eight billion transistors in its construction... ■

construction, a huge increase on the 5.2 billion used in the GM204. They're still built using the trusted 28 nanometre process that NVIDIA has been using for several years now, yet thanks to Maxwell's excellent energy efficiency, the GPU has a TDP of just 250W. Compare this to AMD's R9 290X, which has a TDP of 290W, and we can see that NVIDIA's attention to energy consumption has really paid off. It simply wouldn't have been possible to build such a large chip if Maxwell's design wasn't inherently energy efficient.

Due to the fact that the GPU doesn't double as a room heater, NVIDIA hasn't had to develop a new cooler for the Titan X. It's dusted off the trusty reference cooler design for use on the Titan X, adopting the exact same heatsink and fan combination as the GTX 980. At its heart is the same blower-style fan that grabs air from inside your case, and blows it out the rear of the PCI slots. This is used to cool the copper vapour chamber that extracts heat from the GPU, and as expected it's relatively quiet compared to noisier cards, though an audible hum is to be expected during heavy usage. One change to the cooler is the sexy all-black finish, with the Titan brand

name emblazoned on one end. The card itself retains the same 10.5 inch length seen with other high end graphics cards, and swallows up two slots in your case, meaning it should fit inside even smaller Mini-ITX systems without too much of an issue. Compared to the 12 incher that is the Radeon R9 295X2, the Titan X presents much fewer space obstacles for system builders. Power is delivered courtesy of two power connectors, one being six-pin, the other eight-pin. A 6+2 power phase design is standard, and NVIDIA allows the user to increase the power limit by 10%, upping the TDP to 275W. Overclockers will find NVIDIA's strict voltage regulations are still enforced, with the 1.162V base voltage only adjustable up to a mere 1.23V.

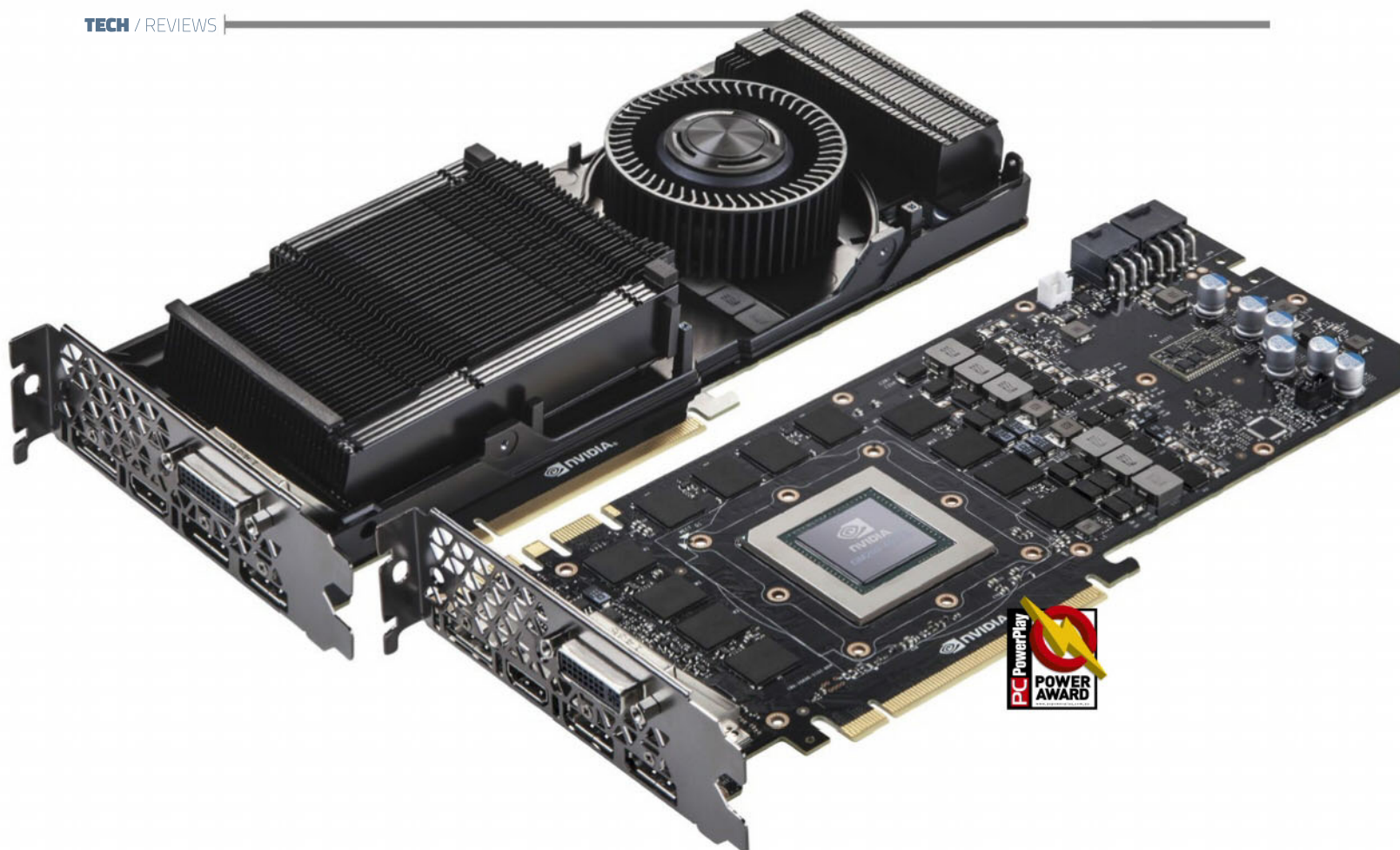
As far as outputs go, the Titan X is equipped with the same range of ports as the GTX 980. A dual-link DVI port sits alongside a HDMI 2.0 connection, which makes this a potent partner to power 4K TVs also equipped with HDMI 2.0, as it allows full 4K resolution at 60Hz. Three full-sized DisplayPort outputs round out the connectivity options. It's possible to drive up to four displays simultaneously with the Titan X, and the huge amount of onboard memory means it's got the capacity to handle stupidly high

resolutions with ease.

The same features found on other Maxwell-based products are found here on the Titan X. Multi-Frame Samples Antialiasing (or MFAA for short) delivers excellent antialiasing with a low performance overhead, and is now supported by most games thanks to NVIDIA's excellent driver support. We love NVIDIA's Dynamic Super Resolution, which makes downsampling from higher resolutions an absolute breeze, while support for Voxel Global Illumination should result in even more realistic lighting within games, should developers choose to support this technology. NVIDIA's moon landing demo uses this technology to show off just how realistic this real-time lighting system is, and it's almost photorealistic. G-Sync support is also included, and a range of 4k displays with G-sync compatibility are set to arrive on the market soon; the Titan X will be the perfect partner for such displays.

With so much hype around Virtual Reality at the moment, and the Rift's consumer release date finally set for quarter one in 2016, NVIDIA has wisely included VR Direct support. This cuts the latency encountered when rendering a frame, and also adds support for





Asynchronous Warp. According to NVIDIA, this lets the GPU update the last scene rendered based on the player's head position. By warping the image later in the rendering pipeline, Maxwell cuts discontinuities between head movement and action on screen.

So far, so very good, but one area where Titan X is set to disappoint is its lack of support for compute operations. Prior Titans turned out to be relatively cheap products compared to NVIDIA's Tesla range of compute graphics cards, but were adept at compute intensive tasks thanks to its strong FP64 compute performance. Titan X does not follow this trend. Instead, it has a native FP64 rate of just 1/32, making it unsuitable for compute intensive operations. There's a reason for this trade-off though; with the GM200 needing so many transistors focused on graphics, NVIDIA simply didn't have room to include the additional compute ALUs found on prior Titans.

#### HOW DOES TITAN X PERFORM?


Given the huge 50% increase in internal components, it's easy to assume that Titan X will deliver 50% higher framerates than the GTX 980, but the slower clockspeed of Titan X means it's

not the case. Instead we expected to see around a 40% performance increase, and threw a bunch of games at the Titan X to see how accurate our predictions were. Our testbench consisted of the i7-4790K Devils Canyon processor, mounted on an ASUS Maximus VII Hero motherboard with 16GB of DDR3 1800 memory. A Corsair Neutron GTX SSD handled our Windows 8.1 64-bit install, and we used the latest publicly available drivers, in the form of the 350.12 driver set. We used an ASUS PB287Q display to test the card's 4K performance.

The first test was Grid Autosport, running at Ultra detail with a resolution of 3840 x 2160. The Titan X happily demolished the GTX 980 by 37%. Next up was the demanding Shadow of Mordor benchmark, and we tested with the same detail and resolution as Grid Autosport. This time around the Titan X took the lead by a healthy 41%. Finally, 3DMark's FireStrike demo was used to push both cards to their limit, and once again the Titan X took the lead handily, this time by 32%.

#### IS IT WORTH IT?

Considering the Titan X costs 110% more than a GTX 980, yet only yields a performance benefit of 40% at most,

many will wonder how NVIDIA can justify the Titan X's hefty price tag. But that would miss the point of this product; it's aimed at those gamers who don't flinch at spending \$1600 for the best GPU on the market. However, the Titan X faces the strongest competition from dual-GPU configurations. It's possible to buy two GTX 980s for the same price as one Titan X, and they'll easily wipe the floor with the it, provided the game has decent SLI scaling. Ditto with AMD's R9 295X2, which can now be had for just \$1099, and will happily run rings around a single Titan X. Personally speaking, we'd definitely opt for two GPUs rather than a single Titan X, but for those who don't want to deal with the sometimes buggy performance of dual-GPU systems, the Titan X offers by far the fastest single-GPU performance around. **BENNETT RING** 

- Incredibly fast
- Runs cool and quiet
- 12GB of memory!

- Expensive
- Expensive
- Very expensive

#### VERDICT:

While dual-GPUs will run rings around the Titan X for the same price, there's no denying that it's the fastest single-GPU gaming graphics card ever made.

9





GPU

## Galax GTX 970 HOF

Galaxy drops a letter, and boosts the build quality

PRICE \$599

[www.galaxstore.net](http://www.galaxstore.net)

This is the first graphics card we've reviewed with the Galax brand name, and it couldn't be more different to the budget offerings we've previously associated with Galax graphics cards. This is one serious piece of hardware, redesigned from the ground up to extract every possible ounce of sweat out of the GTX 970 GPU at its heart.

Removing this card from its packaging reveals an absolute whopper of a card. It's using a new 10 layer PCB, reinforced by a sturdy backplate. It's much bigger than normal GTX 970 PCBs, apparently to deliver cleaner electrical paths. The 8+2 phase VRM should deliver best-in-class power stability, while the huge Triple Force cooler is as heavy as it is sexy. A total of seven, yes seven, heatpipes suck the heat from the GPU, which is then dissipated by twin 80mm fans separated by another 90mm fan. According to the marketing material, it uses special IR3595 Digital PWM controllers that deliver twice the switching frequency of previous generations, and it's also apparently equipped with aerospace quality power inductors. Twin 8-pin power connectors give this baby plenty of juice

for overclocking, and its twin BIOSes allow Galax to override NVIDIA's limiting voltage regulations. All sounds very impressive, right?

Output duties are handled by a DL-DVI port, three full DisplayPort 1.2 outputs and a single HDMI 2.0 output, allowing up to four displays to be connected simultaneously. Of most interest on the face plate of this card though is the large black button next to the DL-DVI output, which allows the user to shove this beast into "Hyper Boost" mode. When combined with a piece of software called HOF\_NVDD, which was created by the community, it's possible to dump up to 1.3V through the GPU, a big increase on the 1.21V that the GTX 970 is usually limited to. We'd strongly recommend water cooling if you're going to pump this much juice through it though.

Galax has endowed this card with a huge 1380MHz Boost speed straight out of the box, making it the fastest factory overclocked GTX 970 on the market. However, we managed to get a crazy 1540MHz out of the GPU with the voltage set to 1.21, making this the best GTX 970 for overclocking that we've seen. At these speeds it rivals a GTX 980, which starts around \$700,

At these speeds it rivals a GTX 980, which starts around \$700, but is substantially more expensive than a GTX 970.

but it is substantially more expensive than competing GTX 970s. Galaxy sells a basic version of the GTX 970 for just \$450, and it'll perform within 10 to 15% of this card, for a huge 33% cost reduction.

Whether or not you're willing to pay \$600 for this graphics card will come down to just how much you value having the fastest GTX 970 on the market. It's a doozy of a product, but you will pay extra to be able to brag about your 1500MHz+ clock speed.

BENNETT RING

- Stupidly overbuilt
- Amazing cooler
- Supreme overclocking

- Very large for a 970
- Rather pricey

### VERDICT:

Make no mistake, this is arguably the best GTX 970 around. Whether you want to pay the premium for it is up to you.

9



## DRONE

# Parrot Bebop Drone

Killer camera, prone to breakage

PRICE \$699

[www.parrot.com/au/](http://www.parrot.com/au/)

Ok, so it's not exactly PC hardware, but we couldn't pass up the opportunity to check out Parrot's latest entry-level drone, the Bebop. Boasting massively improved specifications over its predecessor, it sounds like the perfect way to ease newcomers into the art of remote controlled flying. It's now equipped with a stunning 1080p camera as well, making it one of the most affordable ways to capture epic sweeping shots for your home movies. Unfortunately some rather buggy software and poor battery life makes the high pricetag a rather risky investment.

As usual, Parrot has adopted a quadcopter design for maximum stability. Each propeller is designed to stop immediately if it makes contact with small trees, rocks, the ground or innocent bystanders. Parrot has also included four replacement propellers in the case that a blade gets snapped, and there's a damn good chance that will happen. A foam hub can be connected to the drone to help protect it against collisions, but the added weight will soak up even more of the battery life.

Speaking of which, those four propellers chew through the included battery in just over ten minutes. There's

a second one in the box, giving users 20 minutes of flight time unless they choose to buy additional battery packs, which go for around thirty bucks a piece.

Included GPS sensors are meant to ensure the drone will return home if it loses signal, though we found our sample went a little haywire when just 15 metres from its take-off point; hitting the emergency button didn't do anything, suggesting it had lost contact with our Samsung Galaxy S6 entirely. That was one of the biggest issues we encountered with the Bebop, with the FreeFlight 3 software rather buggy to say the least. Several times during our test flights the drone seemed to have a mind of its own, which could be a result of it using the rather crowded 802.11ac WiFi standard. It's possible to choose the channel yourself, but our inner-city test environment was obviously a bit too much for the drone to handle. Hopefully it'll operate better in outdoor environments away from Wireless networks. It's meant to have a range of up to 250 metres, but we had several issues when it was just 20 metres away, at one point almost flying itself out into the middle of a very busy road! We're guessing it operates a heck of a lot better with the optional Skycontroller,

which has an amplified Wi-Fi signal

The killer feature of the Bebop is its stunning 1080p camera, and the footage it captures is stunning. Amateur filmmakers will find it perfect for grabbing shots that used to require a helicopter. There's one issue with it though; thanks to the fish-eye lens, there's absolutely no protection if the drone flies headfirst into something. And once that lens is scratched or cracked, say goodbye to your crisp home movies. We also found the video feed to our phone exceptionally laggy, making flying this way impossible.

While we had issues with our unit, we're sure it'll fly much better in country environs away from congested WiFi networks. However, the issue of its fragility is much harder to justify, so whether or not you're willing to splash out \$700 on this toy probably depends on how handy you are with a soldering iron and super glue. **BENNETT RING**

- Excellent camera
- More rugged than last version
- Intuitive software

- Buggy software
- Low battery life
- Prone to breakage

## VERDICT:

Fly it somewhere away from trees, powerlines and the ground, and you shouldn't have too many issues with breaking your new baby.

6



## INPUT

# Turtle Beach Impact 700 Mechanical Keyboard

Brutish build quality, basic feature set

PRICE \$218

[www.turtlebeach.com](http://www.turtlebeach.com)

We've tested plenty of Turtle Beach headsets, but this is the first keyboard from this premium sound manufacturer. Like other Turtle Beach products it comes with quite the hefty price tag, but does it have what it takes to compete in such a crowded segment? More importantly, can it knock the Corsair K70 RGB off its perch as our favourite high-end keyboard?

It's nice to see Turtle Beach stick with Cherry MX keys in the Impact 700, but users are limited to Brown keys; there's no other option available. Each keystroke feels exactly like every other Cherry MX Brown keyboard, and they're backlit with a red light. While the light intensity can be adjusted, there's no disco-like ability to setup multiple colours. We do like the finish of the keyboard, with each key and the chassis covered in a coating that is smooth

yet soft to the touch, almost like the rubberised coating found on certain laptops, but not as spongy.

As for as macro keys go, there aren't any, which is a glaring omission in a keyboard of this price. In fact, there aren't even any dedicated media playback keys, something we can't live without these days. It's also totally lacking any form of macro support, as there's no software built for the keyboard. About all it does have going for it is the steel frame.

Given the lack of features and rich pricetag, we simply can't recommend this over similarly priced keyboards. Sure, it's strong and reliable, but it misses crucial functionality that should be a given for \$200 or more. **BENNETT RING** 🇬🇧



- Real Cherry MX keys
- Sturdy steel frame
- Decent backlighting

- No RGB lights
- No macro keys
- No macro recording

## VERDICT:

Turtle Beach has delivered a strong and sturdy keyboard that unfortunately foregoes the basic features offered by similarly priced rivals.

6

## INPUT

# Turtle Beach Grip 500 mouse

Blissfully unaware of the competition

PRICE \$89

[www.turtlebeach.com](http://www.turtlebeach.com)

Given the rather rudimentary design of the Impact 700, we were expecting a rather simple mouse when reviewing Turtle Beach's newest mouse, the Grip 500. Waddya know, we weren't wrong – Turtle Beach has delivered a capable little home for your palm, but once again fails to take into account the advanced features of its competition.

Finding the right software for this mouse is a pain, as Turtle Beach's support website appears to have been built in 1994. Thankfully the quickstart manual points to its location, and once installed we could see the basic configuration options offered by the Avago 9800 laser sensor. The usual suspects are there – lift height, polling speed, and DPI adjustments. There's also the ability to tweak the RGB lighting, and record Macros, albeit via a rather clunky Macro-recording

interface. Sadly the more advanced features found on SteelSeries and other competitor's mice, like angle-snapping, sniping buttons and acceleration controls are all noticeably absent. Unfortunately we also couldn't find a way to uninstall the software other than deleting the folder it installs to – primitive to say the least.

It's a shame, as the mouse actually feels nice in the palm of your hand. The main L/R buttons are just right, and three extra buttons on the left side are a welcome addition. It's missing the extra buttons found on most other mice of this price point though.

Again we see Turtle Beach pumping out an adequate product but slapping a premium price tag on it. For \$50 it'd be great value, but at \$89 doesn't come close to the likes of SteelSeries. **BENNETT RING** 🇬🇧



- Decent sensor
- Comfy ergonomics
- Great L/R buttons

- No advanced features
- Lacking overall buttons
- Expensive

## VERDICT:

If it was half the price this would be a great value mouse, but when compared against other \$90 mice doesn't have the features to match.

6

## AUDIO RECORDING

## AT 2020USB+

Premium Build Quality

PRICE \$249

audio-technica.com.au

**B**ased on the AT2020 cardioid (so named because of the heart shaped field of sensitivity that picks up noise from a front facing arc and ignores sound from behind) condenser microphone, the AT2020+ promises to combine high fidelity studio recording functionality with the convenience of a USB connection. Long story short, it does.

The package is pretty straightforward, the mic coming with a pivot mount, tripod stand and 3m USB cable. A pop filter isn't included but during testing we didn't have too much difficulty with distortion and popping coming from plosives. The build quality is excellent, with the condenser enclosed in a solid mesh cage and further reinforced with a rigid metal frame. Setup is also very straightforward – the USB plugs in the base of the mic, face the front towards the audio source and use your favourite recording software to capture a podcast,

record music or start live streaming via Twitch or some other service. A rear mounted headphone port allows users to monitor the recording in real time, and a monitor control controls how much of the existing sound (from a game for example) is played through the headphones in addition to voice.

Recorded sound is excellent with minimal microphone hiss or plosive popping. The off axis rejection is also excellent, with sounds from the side being muted and sounds from the rear being all but gone. There are definitely cheaper microphones on the market but there are few with this level of build quality and ease of use. **DANIEL WILKS** 🇬🇧



- Excellent build quality
- Easy setup
- Off-axis rejection

- Single pickup pattern
- Lacks accessories

## VERDICT:

A beautifully built studio mic that won't break the bank too much and offers crisp recording.

9

## AUDIO RECORDING

## Razer Seiren

Big Mic, Big Features

PRICE \$279.95

www.razerzone.com/au-en

**T**he packaging for the Seiren loudly proclaims the mic is for "Professional Studio-Grade Recording". This is a bit of a furphy. The mic certainly looks the part. It's huge and imposing, sitting on a desk like some kind of alien monolith, a glowing glyph on the front informing you what polar pattern is currently being used for recording. When it comes to recording, however, it's not quite as professional as the looks and box may attest.

The mic sports a three membrane diaphragm, with each of the membranes being positioned at a slightly different angle allowing users to switch between different polar patterns; Cardioid, Stereo, Omni-Directional and Bi-Directional. Each pattern has its own specific use – Cardioid is great for single voice recording or webcasting as it ignores sound from the back whereas Omni-

Directional is great for conferences or multi-person interviews or single mic podcasting. That's the theory anyway. In practise we didn't notice a whole lot of difference in recording quality. The Seiren is incredibly sensitive so regardless of the polar pattern chosen, any hum, hiss or furniture creak will come through. Heavy breathing and plosive popping can also be a little bit of a problem if you don't invest in a Seiren filter as well (or opt for the pro version of the mic which comes with all the accessories).

While the recording might not exactly be studio-grade, it is definitely one of the best gaming mics around. For podcasting or streaming, the sound is impressive and the zero latency headphone monitoring allows for on the fly adjustments to take care of problems. **DANIEL WILKS** 🇬🇧



- Decent value
- Great for podcasting and streaming
- Good build quality

- Chunky
- Slightly awkward controls
- Not "Studio-Grade"

## VERDICT:

Doesn't quite live up to the marketing spiel, but the Seiren still offers excellent value for podcasters and streamers.

8





 NVIDIA  
**G-SYNC™**



 NVIDIA  
**SLI**



2.29 cm / 2.5kg

# Earth's Most Powerful 15"

## 15.6" GEFORCE **GTX 965M SLI** GAMING LAPTOP **X5**



NVIDIA® GeForce® GTX  
965M SLI GDDR5 8GB



NVIDIA® G-SYNC  
Technology

**3K**  
2880x1620

3K WQHD+  
IPS Display



5th Gen. Intel®  
Core™ i7 Processor



Built-in Hardware  
Video Encoder



XSplit | Gamecaster

XSplit Gamecaster  
Streaming Software



www.aorus.com

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### PLACE TO PURCHASE

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**scorptec**

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WWW.KONGCOMPUTERS.COM

**Online Centre** Pop Ltd.

**FRAGLABS**  
THE SCIENCE OF GAMING

# HOTWARE<sup>241</sup>

with Terrence Jarrad

## 01 Flyte

Price: \$250 • Distributor: Flyte

[flyte.se](http://flyte.se)

Wizardry and science combine to bring you this levitating light, which reached its \$80,000 funding goal, and then some, blasting through to the better part of 600k. **POWERED UP:** Magnetic magic offers the levitating effect, and the power for the light itself it is hurled wirelessly through the air. Tesla would be proud. The wood is also sustainably sourced, and light is provided from LEDs rated at 50,000 hours.

**PLAYED OUT:** An expensive lamp, which you probably want to avoid bumping, lest you have \$250 of broken glass on the floor.

## 02 The Wild Hunt

Price: \$650 • Distributor: Musterbrand

[www.musterbrand.com](http://www.musterbrand.com)

Though it's been around a while, Musterbrand is one of our new favourite online stores. It's all about gaming themed clothing, but generally quite subtle, and with high quality and unique pieces available.

**POWERED UP:** 100% bull Nappa leather, stylish asymmetrical zip, with detailing in shoulders and straps to give a leather armour aesthetic while the Wild Hunt symbol remains underplayed on the chest.

**PLAYED OUT:** Limited run of 300. Will there still be any left by the time you read this? QUICK! GO LOOK NOW!

## 03 Tile Tracking Tags

Price: \$30 • Distributor: Tile

[www.thetileapp.com](http://www.thetileapp.com)

We lose stuff all the time. Wallets. Phones. Cats. You name it. That's why we need Tile.

**POWERED UP:** Attach to things you regularly misplace and then track them with your phone from up to 30 metres away, and one app will track up to 8 Tiles, and remember their last location if you need to retrace steps to find a lost item.

**PLAYED OUT:** What if you lose the phone with the locator app on it? WHAT THEN, TILE?!

## 04 Tesla Powerwall

Price: \$TBA • Distributor: Tesla

[www.teslamotors.com/powerwall](http://www.teslamotors.com/powerwall)

Elon Musk, the man who is driving the electric car resurgence and trying to send humanity to Mars wants also to free us from the constraints of non-renewable energy sources. To that end, the Powerwall is a battery for your home.

**POWERED UP:** Using your solar array (you have a solar array, right?) the 7 or 10kWh battery will charge, storing power for usage during the evening hours when it's the most expensive.

**PLAYED OUT:** Doesn't make a lot of sense without solar. Pricing in the US is around 3k, but who knows what that will translate to in 2016 when the Powerwall is scheduled to make it over here.

## 05 Turn Signal Gloves

Price: \$100 • Distributor: Zackees

One of the biggest challenges cyclists face is being seen. It can literally (and unfortunately) be life and death. So we're all for technology that helps people. Enter Zackees LED turn signal gloves.

**POWERED UP:** A simple touch between thumb and forefinger activates the light, then you just signal as normal, and a light sensor will even boost the brightness during the day. The battery should give a couple of months of daily usage, and simply take out the battery when you need to throw them in the wash.

**PLAYED OUT:** Maybe bicycle safety isn't worth \$100 to you?



01



02



03



04



05



# EXCALIBUR

## *Spectrum*



### RGB Backlit Mechanical Keyboard

Tesoro Excalibur Spectrum is a mechanical keyboard with an advanced backlighting processor. It is capable of many stunning illumination modes. You'll get a lot of colorful fun out of using this amazing keyboard!



512kb  
Built-in Memory

Tens of Millions  
Actuations - No Degradation

16 Million Colours  
7 Beautiful Lighting Modes

You can find this product & more in the following retailers:

**mwave.com.au**  
Australia's Largest Online Tech Retailer  
Ph: 1300 727 446 | 02 8705 6000



46-48 Glenvale Crescent  
Mulgrave, VIC 3170  
Ph: (03) 9560 2122

**CENTRE COM**  
For The Best Price & Advice  
www.centrecom.com.au

**BudgetPC**  
Ph: (03) 9541 9000

**w.com.au**  
www.jw.com.au

**eyo**  
www.eyo.com.au

**capitol computer**  
capitolcomputer.com.au



# MENAGERIE

This month the Beast gets a triple-Titan X injection, bumping its total price up over twenty grand. Yowsers!

## BUDGET

The perfect entry-level gaming PC

### CPU

**AMD FX-4300 Quad Core 3.8GHz 4 Core Black Edt.**

**\$145** [www.amd.com](http://www.amd.com)  
We're sticking with AMD's budget beauty.



### MOBO

**ASRock 980DE3/U3S3 AM3+**

**\$69** [www.asrock.com.au](http://www.asrock.com.au)  
Our CPU needs a new ASRock home.



### RAM

**GelL 8GB Kit DDR3 Evo Veloce C9 1600MHz**

**\$85** [www.gelil.com.tw](http://www.gelil.com.tw)  
In with the cheapest we can find



### VIDEO

**Sapphire Radeon R9 280X**

**\$349** [www.sapphiretech.com](http://www.sapphiretech.com)  
Enjoy 1080p performance with all the options



### POWER

**Cooler Master Thunder 500W**

**\$66** [www.coolermaster.com](http://www.coolermaster.com)  
The budget beast doesn't need a lot of juice



### SOUND

**Sennheiser HD201 + ASUS Xonar DG**

**\$38 + \$33** [www.sennheiser.com](http://www.sennheiser.com)  
Headphones plus soundcard – yes!



### OPTICAL

**Lite-on DVD-RW**

**\$49** [www.us.liteonit.com](http://www.us.liteonit.com)  
We'd happily retire the drive, but some of you guys still believe in physical media.



### STORAGE

**Toshiba DTO1ACA050 500GB HDD**

**\$59** [www.toshiba.com.au](http://www.toshiba.com.au)  
Half a Terabyte should handle everything.



### DISPLAY

**Samsung 24" S24D300H**

**\$199** [www.samsung.com](http://www.samsung.com)  
Crystal clear 1920 x 1080 res gaming



### CASE

**BitFenix Shinobi**

**\$95** [www.bitfenix.com](http://www.bitfenix.com)  
Nice for the price. This is the little brother of the case used in our Performance build.



### KEYBOARD

**Tt eSPORTS Challenger**

**\$49** [www.thermaltake.com.au](http://www.thermaltake.com.au)  
Built for PC gamers. Macros, shortcuts, the lot.



### MOUSE

**Gigabyte M6900**

**\$26** [www.gigabyte.com.au](http://www.gigabyte.com.au)  
A sensor resolution of 3200DPI will make your headshots count.



**TOTAL: \$1,262**

## PERFORMANCE

Most bells and whistles, without breaking the bank

### CPU

**Intel 4th Generation Core i5-4670K + Cooler Master Hyper 612 PWM**

**\$299 + \$59** [www.intel.com](http://www.intel.com)



### MOBO

**ASRock Z97M Anniversary**

**\$130** [www.asrock.com](http://www.asrock.com)  
Around half the price of Z97 boards.



### RAM

**GelL 8GB Kit DDR3 Evo Veloce C9 1600MHz**

**\$85** [www.gelil.com.tw](http://www.gelil.com.tw)  
In with the cheapest we can find



### VIDEO

**Galaxy GTX970-4GD5**

**\$499** [www.galaxytechus.com](http://www.galaxytechus.com)  
NVIDIA's mid-range card is perfect



### POWER

**Corsair VS650**

**\$85** [www.corsair.com](http://www.corsair.com)  
This affordable PSU delivers a clean and reliable source of energy.



### SOUND

**Audio Technica ATH-A500X w/ASUS Xonar DG**

**\$159 + \$33** [www.audio-technica.com](http://www.audio-technica.com)



### OPTICAL

**Lite-on DVD-RW**

**\$49** [www.us.liteonit.com](http://www.us.liteonit.com)  
This is the one bit of kit that stays the same between most of our machines.



### STORAGE

**W.D. Caviar Black 1TB + Samsung 850 EVO 250GB**

**\$109 + \$165** [www.wdc.com / www.samsung.com.au](http://www.wdc.com / www.samsung.com.au)



### DISPLAY

**BenQ XL2411T**

**\$379** [www.benq.com.au](http://www.benq.com.au)  
BenQ's 24-inch not only looks great, it'll also save your eyesight with a 144Hz refresh rate.



### CASE

**Fractal Design Define R5**

**\$159** [www.fractal-design.com](http://www.fractal-design.com)  
Our new favourite mid-tower.



### KEYBOARD

**Logitech G710+**

**\$139** [www.thermaltake.com.au](http://www.thermaltake.com.au)  
Logi's new mechanical board is one for them to beat.



### MOUSE

**Logitech G502 Proteus**

**\$59** [www.logitech.com](http://www.logitech.com)  
Deadly accurate and super comfortable.



**TOTAL: \$2,408**

## PREMIUM

Crank everything to Ultra, including your credit limit

### CPU

**Intel 4th Generation Core i7-4790K + Corsair H100i GTX Water Cooling Kit**

**\$469 + \$179** [www.intel.com](http://www.intel.com)



### MOBO

**ASUS Maximus VII Ranger**

**\$249** [www.asus.com.au](http://www.asus.com.au)  
One of our favourite Z97 boards



### RAM

**G.SKILL 16Gb (2x 8Gb) DDR3-1600**

**\$165** [www.gskill.com](http://www.gskill.com)  
16GB for our Premium PC



### VIDEO

**2 X Gigabyte GV-N980WF30C-4GD GeForce GTX 980 4GB**

**\$1500** [www.gigabyte.com.au](http://www.gigabyte.com.au)



### POWER

**Corsair HX1000i**

**\$299** [www.corsair.com](http://www.corsair.com)  
A high end PSU to ensure stable overlocks.



### SOUND

**Audio Technica ATH-ADG1 headphones**

**\$249** [www.audio-technica.com](http://www.audio-technica.com)  
We've ditched the soundcard



### OPTICAL

**Pioneer Optical Disc Drive (ODD) Internal Blu-ray Combo Drive**

**\$118** [www.pioneer.com.au](http://www.pioneer.com.au)



### STORAGE

**W.D. Caviar Black 1TB + Samsung SSD 850 EVO 500GB**

**\$109 + \$305** [www.wdc.com / www.samsung.com.au](http://www.wdc.com / www.samsung.com.au)



### DISPLAY

**ASUS PB278Q 27"**

**\$599** [www.asus.com.au](http://www.asus.com.au)  
This huge monitor delivers pixel-perfect 2560 x 1440 resolution, at a fantastic price.



### CASE

**NZXT Switch 810 Full Tower**

**\$185** [www.nzxt.com](http://www.nzxt.com)  
It's big, it's beautiful, and it's also nice and quiet.



### KEYBOARD

**Corsair K70 RGB**

**\$235** [www.corsair.com](http://www.corsair.com)  
This is PCPP's favourite keyboard, case closed.



### MOUSE

**Logitech G502 Proteus**

**\$69** [www.logitech.com](http://www.logitech.com)  
Deadly accurate and super comfortable.



**TOTAL: \$4,538**





# THE BEAST

When overkill is barely enough...



## CPU

**Intel 4th Generation Core i7 4790K  
+ XSPC RayStorm D5 RX240 V3  
Water Cooling Kit**

**\$469 + \$587**

[www.intel.com](http://www.intel.com)

[www.pccasegear.com.au](http://www.pccasegear.com.au)



## HEADPHONES + SOUND CARD

**Audio Technica ATH-ADG1  
headphones**

**\$249**

[www.audio-technica.com](http://www.audio-technica.com)

Plug these into the Marantz amp for maximum sound quality.



## MOBO

**Gigabyte Z97X Gaming G1  
WiFi Black Edition**

**\$479** [www.gigabyte.com.au](http://www.gigabyte.com.au)

This high end Z97-based board has plenty of room for more GPUs when you decide to upgrade, and it's chock full of extras



## STORAGE

**2 x Samsung SSD 850  
EVO 1TB, 3 x WD 1TB  
Velociraptor**

**\$1000 + \$1000**

[www.wdc.com](http://www.wdc.com)

[www.samsung.com](http://www.samsung.com)



## RAM

**Corsair Dominator  
Platinum 4 x 4GB DDR3  
2400MHz**

**\$338** [www.corsair.com](http://www.corsair.com)

It doesn't get much faster than this.



## DISPLAY

**Epson TW9200W**

**\$3800**

[www.epson.com.au](http://www.epson.com.au)

Beautiful 1920 x 1080 gaming. Unfortunately you won't be able to do 3D gaming at anything higher than 720p due to the limitations of HDMI 1.4.



## VIDEO

**3 x Asus GeForce  
GTX Titan X**

**\$5217** [www.asus.com.au](http://www.asus.com.au)

Even one of these cards is insane.



## CASE

**Cooler Master Cosmos II  
Ultra Tower**

**\$379**

[www.coolermaster.com](http://www.coolermaster.com)

It's big, it's beautiful, and it's also nice and quiet.

The compartmentalised interior ensures everything runs ice-cool.



## POWER

**Silverstone  
1500wST1500 Strider**

**\$315** [www.silverstone.com](http://www.silverstone.com)

1500W should be plenty for the three GPUs running alongside an overclocked CPU, as well as the storage within.



## INPUT DEVICES

**SteelSeries Sensei RAW optical +  
Xbox 360 USB Wireless Dongle +  
Xbox 360 wireless controller**

**\$69 + \$40 + \$40**

[www.logitech.com](http://www.logitech.com)



## KEYBOARD

**Corsair K70 RGB**

**\$235**

[www.corsair.com](http://www.corsair.com)

This is PCPP's favourite keyboard, case closed.



## STEERING WHEEL

**Fanatec ClubSport Wheel  
base, Formula Carbon and  
CSP v2 Pedals**

**\$589 + \$239 + \$329** [www.fanatec.de](http://www.fanatec.de)

There's nothing better than "Germangeering" to deliver the most precise force feedback around.



## SPEAKERS

**Paradigm Cinema 110 with dual  
subwoofers and Paradigm  
monitor center channel  
+ Marantz SR5009 amp**

**\$3299**

[www.eastwoodhifi.com.au](http://www.eastwoodhifi.com.au)



## JOYSTICK

**Logitech G940**

**\$385**

[www.logitech.com](http://www.logitech.com)

This Force Feedback set is getting harder to find, but it's still the finest flight controller around.



## OPTICAL

**Pioneer Optical Disc Drive  
(ODD) Internal Blu-ray  
Combo Drive**

**\$118** [www.pioneer.com.au](http://www.pioneer.com.au)

Putting in a Blu-ray drive allows it to double as a powerful media box.



## COCKPIT

**Obutto oZone with Butticker  
gamer 2 and TrackIR 5 Pro**

**\$1100**

You're going to need somewhere to mount your wheel and joystick, and the Obutto frame is a favourite of ours.



**TOTAL: \$20,276**

**Hot  
\$3,699  
Price**



## PLE Powered by ASUS Incredibuild Gaming System

Whether you're a Ranger in the mountains,  
Or a Strix soaring through the skies,  
The PLE ASUS Incredibuild takes you to new gaming heights!

**PLE  
Computers**

[www.ple.com.au](http://www.ple.com.au)



# MIRROR, MIRROR

**ASHLEY MCKINNON** gazes longingly at his reflection...





A few years ago a revolution came along that helped push PCs to the next level. Solid State Drives (SSD) made everything faster, and because of no moving parts, more reliable. Initially they were expensive though – and didn't offer much in terms of storage space compared to standard platter based hard drives. But today however, prices have come down and modern SSDs have enough capacity to keep most people happy.

Now, as SSDs are more affordable and commonplace we can look to using them to even further enhance our system. One such way is to use a second SSD drive to provide data protection through mirroring.

Commonly referred to as RAID (Redundant Array of Inexpensive Disks) level 1, mirroring is one of the simplest forms of data protection available. Mirroring is the process by which data is copied to two drives at the same time – in such a way that the exact contents of one drive are replicated to the other. Due to there being an exact copy of the data on both drives, should one drive fail, your data is still intact on the other drive. You can also gain some extra performance as well, as data can be read from both drives simultaneously. While the performance gains using a mirror are more pronounced when using standard hard drives, since they utilise moving parts to access and read data, SSD mirroring can still show some gains.

Be warned however that because mirroring replicates the same data across two drives you in effect halve your storage capacity. Two 512GB SSD drives will, after mirroring, leave you with only 512GB of storage space.

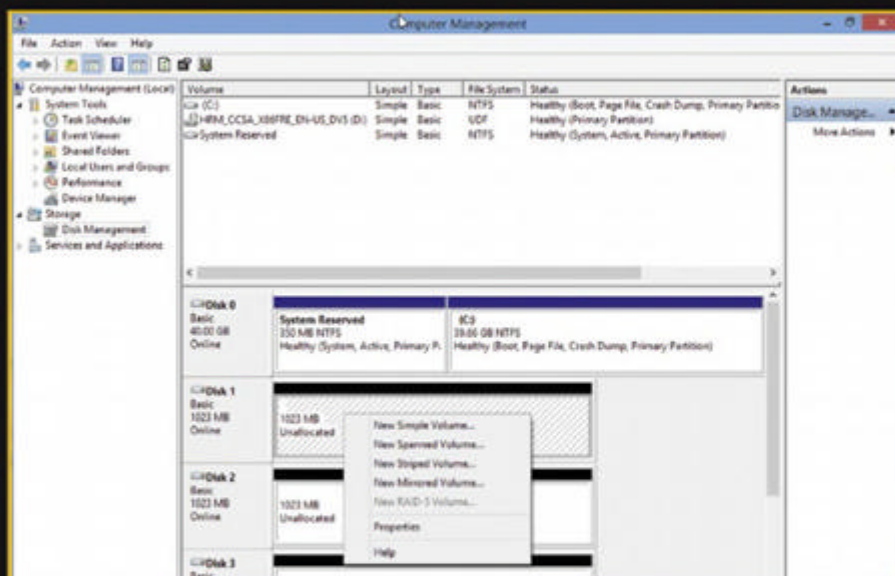
There are two main options when mirroring drives – hardware-based and software-based.

Hardware mirroring can be achieved by using your system's BIOS. Most modern motherboards for the last few years have had the ability to set up and utilise various levels of RAID. Hardware RAID is a good option if you are planning on mirroring your system drive; ie, the drive you have your operating system on. Because it is hardware based it works outside the operating system and is normally considered faster and more reliable.

It would be impossible to run through setting up mirroring for each and every BIOS and motherboard that's out there but they are all pretty similar in operation. We'll run through a standard simple setup here, though you may have to slightly tweak for your own system.

Firstly install your second SSD into your system. For best RAID results the new drive should be of equal size to your existing drive. If you are setting this up from scratch just make sure you purchase two identical drives.

After entering the BIOS you should see an option for Storage Configuration, usually on the same page as your Hard Drives. Once you enter



into the Storage Configuration area you should see an option for SATA configuration, where you can change the SATA Configuration to RAID (it should be set to IDE by default).

Once set to RAID save and exit the BIOS and let your system reboot. Upon reboot – just after the POST (Power On Self Test) – you should be presented with another screen that you can enter for RAID setup.

Again, different motherboard and BIOS manufacturers will differ on the setup but it should be similar to what is described here.

From here you should be able to select the type of RAID you want – select Mirror, and then you select the drives you want to be part of the mirror.

■ If you are setting this up from scratch just make sure you purchase two identical drives. ■

Once your drives are selected you can create the RAID. If you are mirroring a drive that has existing data on it there will be a wait while the data is replicated to the new drive. If it is a new mirror with empty drives it should just create and continue.

Once your system restarts again you will now have a functioning RAID Mirror.

The other option is to use the RAID options built into Windows. Software RAID differs in that you can mirror partitions as well as whole drives. So, if your main drive is broken into three partitions you can elect to mirror only the partitions you want to protect.

Here we will be using Windows 8.1 for this

### Windows disk management sure does look exciting!

walk through, but the same process can be achieved using Windows 8 and Windows 7.

After installing your second SSD, start up Windows as normal. Open up the Control Panel and go to Administrative Tools, then Computer Management. Next, open Disk Management and you will see a list of all your current drives (that was done from the Windows Desktop – if you use the default Windows 8 interface go to Apps, then Control Panel and continue as setout above).

Right click on the drive you want to mirror (or if you only want to mirror a Partition, select only that Partition) and you will be presented with a pop-up menu. From the menu select Mirror, and next you'll be asked which drive you want to mirror to. If there are no drives large enough to mirror to, the Mirror option will be unselectable.

Select your newly added drive and then click OK and a mirror will be created. The new drive will go into a re-synchronising state; this is where data from the source drive is being replicated to the newly added drive. Depending on how much data there is it could take several minutes to complete.

Once it has finished your two drives will now be working in tandem.

As already stated, the benefit of mirroring is mainly data redundancy. Should one of your SSD drives fail, all of your data is still intact on the other drive. Simply remove the failed drive and re-establish the mirror to be protected again.

Though we have focused on solid state drives here, mirroring will work with any hard drive type. Just remember that to mirror a drive you need another drive of at least equal size or greater. 🖱️

# PCPP COMPS

Welcome to the PCPP competitions page! With the office positively overflowing in PC gaming goodies, it's become so difficult to do our ridiculously awesome jobs that we decided to pass the savings onto you. And by savings, we mean free stuff. Games, collectibles, swag, and all kinds of media that screams PC gaming. Or perhaps those are the screams of the intern trapped under the boxes of giveaways. Only one way to save them: Head to [www.pcpowerplay.com.au](http://www.pcpowerplay.com.au) to enter!

To find the competitions, simply mouse over the "Community" tab in the main menu at the top of the homepage, and click on "Competitions". Click through to each individual competition page, fill out the form (be sure to agree to the terms and conditions) and you'll be in the running to win! Keep an eye out for this page in future issues of PCPP, as we roll out new competitions every month!

**WIN**



**2**

PRIZE PACKS TO WIN  
THANKS TO TURTLE  
BEACH!

## Turtle Beach Grip 300 and Recon 320 pack

Want a new mouse and headset? Of course you do! Thanks to the good people at Turtle Beach we have two prize packs, each consisting of a Grip 300 Mouse Kit (featuring a mouse and mouse pad) and a Recon 320 headset. Neat, huh?

### TO ENTER:

Head to [www.pcpowerplay.com.au](http://www.pcpowerplay.com.au)  
In 25 words or less, answer the following question:

► **Why is the turtle on the beach?**

**WIN**



**10**

BLU-RAYS TO BE  
WON THANKS TO  
UNIVERSAL  
SONY

## Chappie

Think Short Circuit meets Robocop and you have4 some idea of what to expect from Chappie, the latest film from South African director Neill Blomkamp. Sharlto Copley provides mocap and the voice for Chappie, one of the most charming robot characters to surface in years. Can he be a gangsta and still be a good boy? You'll have to enter the comp to find out!

### TO ENTER:

Head to [www.pcpowerplay.com.au](http://www.pcpowerplay.com.au)  
In 25 words or less, answer the following question:

► **Who is the greatest sentient robot in film?**

**TERMS AND CONDITIONS:** 1. Entry is open to residents of Australia and New Zealand except employees and immediate families of nextmedia Pty Ltd and the agencies associated with any promotion. 2. Entrants under the age of 18 must obtain the prior consent of a parent or legal guardian to enter. 3. Only entries completed with these terms and conditions will be eligible. 4. Entry is by fulfilling criteria noted with the competition. Competitions are games of skill and chance plays no part in determining winners. 5. Competition begins at 17.06.15. Entries close at 22.07.15. In determining eligibility the judges' decision is final and no correspondence will be entered into. 6. Judging will take place on 24.07.15 at nextmedia Pty Ltd. 207 Pacific Highway, St Leonards, NSW 2065. 7. Prizes must be taken as offered and are not redeemable for cash. 8. The promoter is not responsible for misdirected or lost mail. 9. The winners of prizes over \$100 will be published online at [www.pcpowerplay.com.au](http://www.pcpowerplay.com.au). Allow four to six weeks for delivery of prizes from time of print. 10. Comps are as follows: TURTLE BEACH PRIZE PACK: Total prize value is \$376. Two winners will each receive a Recon 320 headset and a Grip 300 mouse kit. CHAPPIE: Total prize value is \$449.50. Ten winners will each receive a copy of Chappie on Blu-Ray. 11. By entering entrants agree to release, discharge and hold harmless nextmedia Pty Ltd., participating promoters and their affiliates, subsidiaries, advertising and promotional agencies and prize suppliers from all claims and damages arising out of entrants' participations in this sweepstakes and/or acceptance of any prize. 12. The promoter is nextmedia Pty Ltd ABN 84 128 805 970 of Level 6, Building A, 207 Pacific Highway, St Leonards NSW 2065.

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AT OVER

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☐ ☐ **13 DISC issues** (1 year) at \$129.00 + bonus t-shirt

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☐ ☐ ☐ ☐ Preferred t-shirt size (Australia & New Zealand Only)

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# Nostalgia

JOSHUA LUNDBERG can look backwards *and* forwards

Videogames, it seems, are a medium where the audience is incredibly focused on their first experiences in a way other entertainment can't compare.

There are endless complaints that games aren't made the way they used to be; that the 2D original on Commodore 64 was superior. That the isometric version puts the 3D reboot to shame. There's no challenge anymore. The art design isn't what it uses to be.

This is often true, but it's also just how nostalgia works. Good Old Games have built a business on the fact we all want to play what we did ten, fifteen, twenty years ago. There's nothing wrong with this at all, and GoG.com do a great job, but our perception of what we played in days past is skewed by a great many factors.

There's even an industry of games that rely on beautiful recreations of art styles from twenty years ago; and we call them by their incorrect terminology and they feature misunderstandings of how graphics actually appeared on their platforms at the time; what is commonly referred to as '8-bit' graphics in many indie games is actually reminiscent of 16-bit. And the harsh jagged edges of the style wasn't what appeared on our TVs, but in modern emulations of 90s-era console titles. This was because of how CRT monitors displayed 2D graphics; now with modern LCD what was once quite smooth is now incredibly jagged.

I find it incredibly interesting that even the art design of these games embrace an 'incorrect' portrayal of what we played in our youth, just as our memories draw our gameplay experiences of the time very differently.

Before games could show incredible detail using realistic graphics I think players used to meet developers half way, and at ages when this was viable. Not to say all games recalled through the nostalgic filter of youth were played exclusively by children, but it's safe to say a lot of us used our imaginations to fill in the gaps.

It's certainly one thing to look back at old games and laugh at how we thought the graphics were incredible - they likely were at the time, anyway; it's another to look back and realise the gameplay of some beloved titles is no longer engaging, riveting and immersive.

I think the point is, as Edgar Wright

brilliantly demonstrated with his film *The World's End*, that nostalgia is evil. When I attended the Wright, Simon Pegg and Nick Frost Q&A about the film it hammered home a lot of thoughts about nostalgia. I realised the films I loved growing up remained lovable; the passive experiences unchanged. Videogames have and haven't fared so well.

Anything from jagged edges to unacceptable frame rates distract my eyes. Most importantly it's the gameplay that affects the emotional attachment.

The entertainment we encounter in our lives is inextricably tied to the context of who and where we are, and although it may



“The context begins to eat the game up until all we remember was the goodness it brought us.”

be obvious to some it's everything around the game that impacts how we feel about it - I'd argue as much or more than the game itself.

The friend you played it with. Perhaps a particular game was your welcome distraction during a stressful time in your life; perhaps you fell in love as you wandered the lands of an MMO.

The context begins to eat the game up until all we remember was the goodness it brought us. If revisited in another time and place in our lives many games simply don't hold the same weight. Certainly replayability is a factor, but some games fare well in that department.

For me the original *Call of Duty* on PC is something I can enjoy time and time again, as is the expansion pack and sequel. They

were solo experiences, so well directed that it's almost impossible to feel them differently; almost impossible to enjoy less.

The multiplayer of *Call of Duty 2* lives on. I play it at every LAN I attend and the fun lasts for many hours without becoming tired.

An example to the contrary is *Battlefield 1942*, which I played endlessly at Internet cafés with my friends. We adored the title. It sent us away from our stressful school lives and had us playing well into the night.

We battled against unknowns throughout the café or waves of enemy AI.

Upon revisiting the title when EA released the updated version for free on Origin the magic was gone. It's not fun without those friends, and even with them it wouldn't be the same.

*Battlefield 1942*, while a favourite game of mine, is an experience that belongs in the past for me. I won't ever feel how I did playing it at fourteen years of age, and there's simply no point in trying.

As an audience I think we should think less about what has come and broken ground as experiences in our lives and more about embracing new games without comparison to our memories of the golden age of gaming - memories that are undoubtedly flawed.

That isn't to say I don't buy old games I never played, even old games I loved - I do both. It's remarkable to play the wonderful titles people talk about for the first time without the blinding light of nostalgic bias.

I'd never played *Diablo II* when it came out, because I didn't care for RPGs or isometric viewpoints. I purchased it about a year before the third entry and became terribly addicted to it. It's still gorgeous - I would argue it is visually superior to the cartoonist *Diablo III*. It's still incredibly enjoyable and for me, lacking the playthrough back into 2000, it doesn't have the let down of a nostalgic context. Who knows, maybe it's like *CoD* for me; those who replay it enjoy it as much as they did the first time.

The relics of the past can hold disappointing reminders that we've moved on; aged and become cynical. Or they can be rich, delicious morsels of gaming goodness that show us who blazed trails and who journeyed down the paths of the brave developers who adventured forth. 🎮











# Ghost Writer

Alessandro Guarrera looks back at the writer who became his own franchise.

**T**o put a long story short: it all began with *The Hunt for Red October*. Tom Clancy sold the story for some \$5000 in 1984. This was soon followed by a string of literary hits, all of which spawned successful films; *The Hunt for Red October* (1984), *Patriot Games* (1987), *Clear and Present Danger* (1989), and *The Sum of All Fears* (1991).

Clancy was more than an author; he was a business man. In the eighties, he began licensing board games based on his books. What's more, demand for Clancy novels was so great he often contracted ghost writers who could follow his signature style of highly researched techno thrillers with intricately contrived plotlines, and a fixation on American conservatism. Clancy's research was so meticulous that the man was profiled by the FBI, who wondered how the author managed to describe the interiors of submarines, and their operations, with such accuracy.

Being a highly skilled writer and businessman, it wasn't long till Clancy's eyes turned to videogames. In 1996, Clancy teamed up with Doug Littlejohns to found Red Storm studios. They were an unlikely duo; not many video game developers can boast being set up by a military novelist, and a British Royal Navy submarine Captain.

Their first game, Tom Clancy's *Politika*, was a Risk-clone based on Clancy's book of the same name. It was soon followed by the critically praised *Dominant Species*, and another book adaptation: Tom Clancy's *ruthless.com*. Regardless of these games' success, they're far from the reason why the Tom Clancy brand resonates so strongly with players. That reason is *Rainbow Six*.

Released in 1998, a seminal year for videogame releases, *Rainbow Six* came into a scene dominated by stellar titles like *Half-Life*, *Unreal*, *Quake 2*, and *Golden Eye*. The game overshadowed the novel it was loosely based on; spawning a long-standing franchise famed for its tactical gameplay.

The first *Rainbow Six* remains a conceptual leap in the advancement of tactical shooters; moving away from the one-man-army gameplay displayed in titles like *Doom* and *Shadow Warrior*, to an experience where players could die as easily as they'd score kills. Missions would be prefaced with a tactical planning map which players used to orchestrate operations in advance, choosing the members of four-man fire teams,

and positioning the teams accordingly. Compared to its predecessors and peers, *Rainbow Six* was first person shooter chess; it was a refinement of the formula. Instead of the typically testosterone-filled plots like: "you are a scientist/soldier/bad dude who has to kill terrorists/aliens/demons from Mars", its story held more twists than its gameplay implied.

Graphically, it's aged as badly as you would expect; straight-edges and jagged pixels come hand in hand with rough models and muddy textures. Unusually, players aimed on-screen using a set of red crosshairs, instead of having a modelled weapon, a



■ ■ The first *Rainbow Six* remains a conceptual leap in the advancement of tactical shooters... ■ ■

feature which would come in to play with *Rainbow Six 3: Raven Shield*. While the look of the games has consistently improved over the years, the feel of them changed, with *Rainbow Six: Lockdown* moving away from the series' tactical roots towards an action-laden direction, with linear levels and forgiving gameplay.

It would be remiss of us to imply that *Rainbow Six* is the only thing worth knowing about Tom Clancy games; in 2001, Red Storm studios released *Ghost Recon*. Set in the far-flung future of 2008, *Ghost Recon* was another highly tactical shooter that revolutionised the market. Released around the same time as *Operation Flashpoint*, and a few years before *ARMA*, *Ghost Recon* turned out to be a quiet success. However

it was only a little while until Tom Clancy's name would be attached to something quite different to *Red Storm*'s previous games, and something even more successful.

Tom Clancy's *Splinter Cell* hit stores in 2002. Published and developed by Ubisoft, this was one of the first games to bear his name that wasn't developed by Red Storm. Starring Michael Ironside as Sam Fisher, the game's polished storyline and gameplay innovations, among which was the iconic trifocal lenses which Clancy initially disapproved of, lead it to be rightfully regarded as among the *crème de la crème* of stealth franchises.

However, 2008 saw the release of *Splinter Cell: Conviction*, the actionised sequel to *Double Agent*. While its gameplay had changed to differentiate it from Ubisoft's then gamble on *Assassin's Creed*, *Conviction* wasn't a bad game by any means, it just wasn't *Splinter Cell*. With 2013's *Blacklist* featuring a younger and hipper version of Fischer, the departure from the original formula was irrevocable. Unsurprisingly, despite *Blacklist*'s success, we haven't seen a *Splinter Cell* since.

So where does that leave Tom Clancy's legacy? Since 2000, Red Storm Entertainment has been a subsidiary of Ubisoft, lending their manpower in recent years to *Ghost Recon*, *Far Cry*, *America's Army*, and the upcoming *The Division*. 2008 saw Ubisoft buy the rights for Tom Clancy's name to be used for their games and related merchandise. While it may seem like this devalued the man's name, this was nothing more than another step in a long line of commercial decisions which Clancy had made, from the very first books he had ghostwritten, to the eventual founding of Red Storm.

Currently, the last published game with his name stamped on its cover was 2014's *Ghost Recon: Phantoms*. With *Rainbow Six: Siege* coming this October, and *The Division* set for early 2016, it seems like the brand will keep being associated with strong releases for Ubisoft. As the man once said: "The good old days are now"; regardless of whatever direction his brand of games have shifted to, they remain games deserving of his brand, made with those same values he expressed in his books: well researched, realistic techno thrillers, with a keen eye on global geo-politics and the American way. 

# Lifeline

**DANIEL WILKS** wonders how people even lived without the intertubes.

**I**n mid-May I moved house. It's wasn't a long move – I only went from Dulwich Hill to Camperdown, but it has been one of the most disruptive experiences in memory for one simple reason. The Internet, or more precisely, the lack thereof. In all my previous moves, I had the Internet connected either before I moved in to the new place or immediately afterwards. Due to a perfect storm of unfortunate events this is not going to be the case for this move. First, the previous tenant in the flat I've moved into didn't connect a home phone line, so the available line pairings that could normally be switched on in a day or so are no longer available, necessitating a technician to come out and do it. Normally this would take 3-7 days to get a Telstra technician to the premises, but due to the recent Sydney Stormageddon that is not the case at the moment. Thanks to our antiquated and poorly maintained copper network, all the technicians in Sydney are busy fixing damaged lines and interchanges, so line connections are taking much longer than usual. I was initially told that the line would be connected in 10-odd days after I moved in. This time frame was then revised and I was informed a technician would be booked for another 10 days past that. Add the time it then takes to get an ADSL line pairing and I don't expect to have a connection until around a month after I moved house.

It's strange to think that I didn't even set eyes upon the Internet until I was 19 or so and doing my first useless degree (a BA in Theatre Theory and Practise majoring in scriptwriting for any of those interested in useless trivia). There were a few computers in the uni library hooked up to the interwebs then, giving students all manner of slow access to Geocities and Angelfire webrings of useless information, flashing animated gifs and tinny repetitive midi tunes. At the time I wasn't at all interested. I was an artist and an academic, and the idea of heading to a computer to look for information on a subject when I was standing in a perfectly serviceable library was ludicrous. I also thought that this Internet thing was going to be something of a fad, an information source that could never replace good old fashioned book learning and the Dewey decimal system. Fast forward 20 years and I find my life to

be made much more difficult without a web connection being close to hand.

Part of this is because of how I, and many other people have changed. The rise of easily available information and accessibility has literally changed the way people's brains work. We outsource some of our memory to machines nowadays, leaving our phones or computers to remember the kind of contact details people would once have had stored away in their own meat memory, or at least in a book they keep handy. In one study by Betsy Sparrow, Jenny Liu and Daniel M. Wegner, published in the August 2011 issue of Science magazine, it was shown that people were beginning to use the internet as a form of "external or transactive memory". Another study by UCLA Professor of Psychiatry Gary Small showed that experienced and frequent users of the Internet are literally having


**■ I also thought that this Internet thing was going to be something of a fad, that could never replace good old fashioned books. ■**

their brains rewired, with a marked and demonstrated increase in activity in the parts of the prefrontal cortex associated with decision making and problem solving. Novice users showed no such change, and similarly no change was observable in either group when they were asked to read printed text.

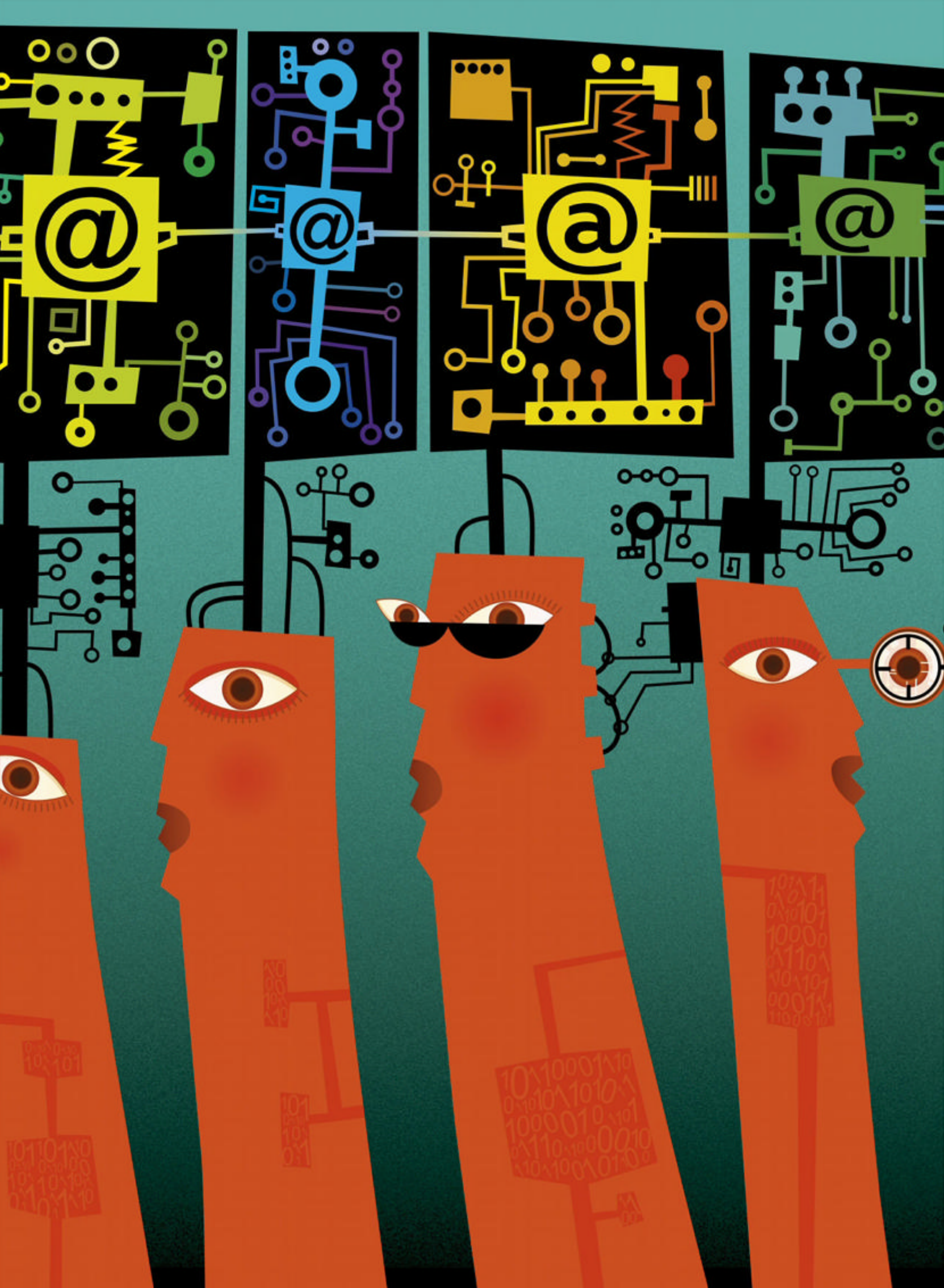
Not having regular home access to what I once thought of as a fad has become something of a disability when it comes to simple matters I would usually outsource to my computer brain, but it's even more debilitating when it comes to workflow at the moment. I can always write at home – words aren't something I have trouble finding. It's the same with most people in my profession, but on a very basic level how I get them down has had to change. Since Google Docs became a thing it has become my staple word processor. The ability to create a document, work on it from any internet connected PC, share

with others without having to save, attach and email the document and the like is a godsend. I can't do that at the moment and having to bring documents into work on a USB makes everything I do feel positively archaic. This is not the major problem, however.

The biggest problem I'm facing to workflow at the moment is the way games are distributed these days. It's a rare occurrence that someone sends up a boxed copy of anything, and when they do arrive they are usually small European adventure games that are either terrible or don't have enough appeal to put in the magazine. Everything else comes through Steam, GOG or some kind of proprietary FTP with the developer, and thanks to DRM for early access many games also require a constant connection for the occasional check to see if you're doing anything naughty with the code. Over the last few months we've had a couple of complaints about how the cover disk is usually filled with Steam demos that require the service for installation, and that the disks should contain offline code so that people in the bush or in territories without the regional access to some games can play the demos too. I'd like to be able to do that but the nature of the industry nowadays is online distribution, not physical copies and standalone demos. I sympathised before, but in my current situation I empathise. Not being able to work from home and review games on the weekend due to lack of Internet access has meant a lot of late nights. This is the very definition of first world problems, but as I live in the first world, they do have an impact.

Looking forward, past the time I hopefully have a connection again, the problems I am facing could possibly affect Australia as a whole. With the rest of the world embracing the digital future and Australia's government embracing copper as the cure for all ills, the lack of a super-fast broadband network could impact the workflow of anyone who works on a computer eight hours a day. More and more jobs are requiring the transfer of massive quantities of data or instant communication with people from all around the world. It's scary to think that one day we might find ourselves not simple lagging behind but being left in the dust. 







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